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ECONOMIC POLICY, ORGANIZATION AND MANAGEMENT

DIRECT ECONOMIC TIES, SUPPLY DISCUSSED

Moscow MATERIAL'NO-TEKHNICHESKOYE SNABZHENIYE in Russian No 7, Jul 82 pp 3-8

[Article by Deputy Chairman of USSR Gosnab N. Nikolaychik: "Strengthen Direct Ties, Improve the Quality of Supply"]

[Text] At the November (1981) CPSU Central Committee Plenum it was stressed that the increase of production efficiency and its intensification require the substantial improvement of the system of material and technical supply. Even brief interruptions in the supply of enterprises and construction projects with raw materials, materials and components literally disorganize their work. That is why today the further development of advanced forms and methods of the production economic interrelations of associations and enterprises, organs of material and technical supply, transportation and other organizations and the increase of their mutual material responsibility for the timely and high quality fulfillment of the plan assignments and obligations on deliveries and the transportation of products in conformity with the orders of consumers and long-term contracts are especially urgent.

One of the most important directions of the solution of these problems is the development and improvement of direct long-term economic ties on deliveries of products for production engineering purposes. It is a question of the organization of stable economic and legal interrelations, which are established for a lengthy, as a rule a 5-year, period, directly between production associations and enterprises--producers and consumers.

As is known, the need to change over to such an advanced form of supply was acknowledged for the first time at the 23d party congress. The basic assumptions, which were elaborated at that time, underwent further development in the materials of subsequent congresses and in the decree of the CPSU Central Committee and the USSR Council of Ministers on the improvement of the economic mechanism.

In fulfilling the decisions of the 25th CPSU Congress and the decree of the CPSU Central Committee and the USSR Council of Ministers on the improvement of the economic mechanism, the administrations of the committee, the all-union main administrations of supply and sales and the territorial organs of USSR Gosnab jointly with the ministries and departments by the end of 1980 had completed for the most part the changeover of production associations and enterprises to direct long-term economic ties. More than 12,000 consumers, among which there are about 8,000 associations and enterprises, which produce 75-85 percent of the total volume of produced output for the corresponding sectors of industry, and 4,500 associations

and enterprises with mass large-series production, changed over to this form of supply.

The plan of the development of direct long-term economic ties for 1976-1980 envisaged deliveries of products for production engineering purposes in the amount of more than 200 billion rubles, including in the amount of 45 billion rubles in 1980 with allowance made for the additional attachment of consumers to suppliers in conformity with the decree of the CPSU Central Committee and the USSR Council of Ministers on the improvement of the economic mechanism. In fact the volume of deliveries of products through direct long-term economic ties during 1976-1980 came to 197.4 billion rubles, including 42.1 billion rubles in 1980. With allowance made for the prices, which were introduced in January 1978, as well as the average weighted prices subject to the actual structure of the deliveries of non-ferrous metals, lumber and products of intersectorial cooperation the volumes of deliveries came to 176.2 billion rubles for the 5-year period and 37.9 billion rubles in 1980.

The Main Administration for the Supply and Sales of Coal, the Main Administration for the Supply and Sales of Heavy Machine Building Production, the Main Administration for the Supply and Sales of Chemical and Petroleum Machine Building Production, the Main Administration for the Supply and Sales of Electrical Apparatus, Systems and Instruments, the Administration of Intersectorial Shipments of Products Under Subcontracting Arrangements of USSR Gosnab, the Gosnabs of the Moldavian, Tajik, Armenian and Turkmen SSR's, the Vologda, Kamchatka, Leningrad, Northeastern and several other main territorial administrations completely fulfilled the set assignments. Nearly all the territorial organs fulfilled the assignments on the volume of deliveries of products of machine building.

Experience shows that a great efficiency of the development of economically expedient direct long-term economic ties between large production associations and enterprises is achieved in those instances when they stably produce and consume products. The organization of stable relations between suppliers and consumers enables them to study mutually the peculiarities of production, to deliver products on the agreed on dates, to enlarge their assortment, to introduce more rapidly advanced technology and new materials on the basis of mutual interests, and to solve questions of the introduction of new types of containers and packaging, which make it possible to mechanize loading, unloading and warehousing operations.

Thus, at the production association of the Volga Motor Vehicle Plant it has become a tradition to acquaint associated enterprises of ferrous and nonferrous metallurgy, the chemical, petrochemical and other sectors of industry well in advance with the planned design and technological changes in the production of motor vehicles. Much experience of joint work with suppliers who have direct ties with the association has been gained. For example, a considerable amount of fundamentally new materials, which are produced by more than 200 enterprises, was required for the production of Zhigulis. Close bilateral contacts with each of them made it possible to solve this problem efficiently and at the proper technical level. As a result a high quality of the motor vehicles being produced was ensured and their materials-output ratio was reduced.

At the Klin Stroyindustriya Combine, which since 1973 has had direct long-term economic ties with the Pikayevskiy Glinozem Association, the production technology

of reinforced concrete was improved by means of the steady delivery of Portland cement in the agreed on specification. As a result its quality improved, the amount of defective output decreased, the time of the heat treatment of items was shortened, which provided a substantial saving of thermal energy. The annual decrease of the rates of consumption of cement, as well as its losses during unloading, storage and delivery to production will also provide a significant economic impact.

As a result of long-term cooperation the Voskresensk Cement Production Association was able in accordance with the made demands to improve the mixture of the cement and to organize its pneumatic feeding through a pipeline to the Voskresensk Krasnyy stroitel' Combine. This enabled the combine to save more than 15,000 rubles a year.

The Podolsk Battery Plant as a result of close technical and economic cooperation with the Yaroslavl Luch Chemical Plant and the improvement of the quality of the lead oxides being received from the combine ensured the production of batteries with the Seal of Quality. The delivery of the oxides is made by motor transport in unitized batches on the agreed on dates directly to the works, bypassing the warehouse. This decreased considerably the expenditures on their reloading, as well as the production stocks of necessary raw materials at the Podolsk Plant.

The Gomsel'mash Production Associations for several years now has had direct long-term ties with the Zaporozhstal' Plant and the Dnepropetrovsk Metallurgical Plant imeni G. I. Petrovskiy. This has made it possible to obtain in accordance with the agreed on specifications economical sections of rolled metal products and to decrease their machining. An economic impact in the amount of about 150,000 rubles a year was obtained by means of this.

The Volga-Vyatka Main Territorial Administration of USSR Gossnab has achieved quite good results in the organization of direct long-term economic ties. Here new types of products have been assimilated, their quality has been increased, the rates of consumption of raw materials and materials have decreased, the transportation costs have been reduced. The total amount of the saving comes to 30 million rubles a year.

The development of long-term economic ties between production associations (enterprises) which are the producers and the enterprises for deliveries of products of the system of USSR Gossnab is of great importance for the assurance of the steady and reliable supply of consumers who receive products in nontransit amounts. Such ties enable them to concentrate at subordinate enterprises stocks of products in the necessary assortment, to increase the efficiency of the use of material resources and to shift them more efficiently for ensuring the uninterrupted supply of consumers.

At the same time it should be noted that in the development of direct long-term and long-term economic ties there are shortcomings which decrease their effectiveness. The stability of the established relations between associations (enterprises) is frequently upset as a result of the fact that some ministries and departments frequently adjust the plans of production and change the funds for material resources, which have been earmarked for subordinate enterprises.

For example, during 1980 alone the Ministry of Heavy and Transport Machine Building made more than 240 changes in the approved plans of production and the funds

earmarked for enterprises having direct long-term economic ties, the Ministry of the Electrical Equipment Industry--185, the Ministry of the Chemical Industry--180, the USSR Ministry of Ferrous Metallurgy--95, the USSR Ministry of Nonferrous Metallurgy--50. In this connection the all-union main administrations for supply and sales were forced to make numerous adjustments in the plans of attachment.

The disruptions of deliveries of products by enterprises of a number of ministries (the USSR Ministry of Ferrous Metallurgy, the USSR Ministry of Nonferrous Metallurgy, the USSR Ministry of the Timber, Pulp and Paper and Wood Processing Industry, the Ministry of the Chemical Industry and others) as a result of their nonfulfillment of the established production plans are doing considerable harm to the stability and effectiveness of direct long-term ties.

Cases of the formal conclusion of 5-year contracts, which almost do not differ from ordinary annual contracts, are occurring. The Moscow Dinamo Plant, for example, concluded contracts with more than 50 enterprises for the delivery in accordance with direct long-term economic ties of ferrous and nonferrous metals, chemical and industrial rubber products, insulating and other materials. Here long-term technical and economic cooperation with the suppliers on the delivery of materials in a form more ready for consumption in production, an increase of product quality and other conditions, which ensure the efficient use and saving of material resources, are not stipulated in the contracts. Such an approach to work sharply decreases the effectiveness of these ties.

The practice of work shows that a number of ministries (the USSR Ministry of Ferrous Metallurgy, the Ministry of the Chemical Industry, the USSR Ministry of the Timber, Pulp and Paper and Wood Processing Industry, the Ministry of the Petroleum Refining and Petrochemical Industry) are remaining aloof of the solution of the questions of the further development and the increase of the effectiveness of direct ties. Some all-union main administrations for supply and sales (the Main Administration for the Supply and Sales of Chemical Production, the Main Administration for the Supply and Sales of Industry Rubber and others) are duplicating the drawn up plans of attachment for the delivery of products in accordance with direct long-term economic ties with annual and intra-year plans, which is at variance with the very essence of these ties.

In order to overcome these shortcomings and to ensure the further increase of the quality and effectiveness of direct long-term and long-term economic ties, the Technical Administration and the Scientific Research Institute of Machine Sciences imeni A. A. Blagonravov jointly with the administrations of supply and the efficient use of material resources of USSR Gosplan and the all-union main administrations for supply and sales drafted a plan of the development of these ties during the 11th Five-Year Plan. The tasks posed in the Basic Directions of USSR Economic and Social Development for 1981-1985 and the Period to 1990 and the control figures of USSR Gosplan for 1981-1985, with allowance made for the results achieved during the 10th Five-Year Plan, were the basis for it. The suggestions of production associations (enterprises), the Gosplan of the union republics, the main territorial administrations of USSR Gosplan and the ministries and departments, which are the consumers and producers of products, were also taken into account.

The five-year plan of the development of direct long-term and long-term economic ties, which was approved by USSR Gosplan, stipulates that only the leading

production associations and enterprises, which govern the development of some sectors or others of the national economy of the country, will be converted to these ties. The initiative in the changeover to such an advanced form of supply should come from below, from production associations (enterprises) and the territorial organs of USSR Gosstab. However, this does not rule out the active participation of interested ministries and departments in the drafting and coordination of the five-year plans of the development of direct long-term ties. The attachment of consumers to suppliers is carried out with allowance made for the long-term dynamics of the structure of production and the allocation of material resources. The increase of the completeness of the coverage by direct long-term economic ties of all the basic types of products, which are constantly received by the enterprises in transit amounts, is also planned. One of the main tasks is the assurance of the stability of the established ties.

In all during the 11th Five-Year Plan it is envisaged to cover by direct long-term economic ties more than 11,000 large associations and enterprises with materials-intensive production. It is planned to make deliveries of products in accordance with the indicated ties from 5,500 production associations and manufacturing enterprises.

In the process of drafting the plan for 1981-1985 the Gosstabs of the union republics, the main territorial administrations of USSR Gosstab, the ministries and departments did much. Guided by the procedural instructions which were prepared in this respect, they revised the unsound attachment of enterprises with the small-scale and unstable consumption of material resources, for which such ties are economically inadvisable, and additionally converted to them production associations and enterprises with stable and materials-intensive production. Moreover, the suggestions of the ministries and departments, which submitted lists of associations and enterprises with a production volume of 10 million rubles a year and more, as well as the products list, in accordance with which it is expedient to develop direct long-term economic ties, were taken into account.

For the purpose of creating the conditions for the increase of the reliability and efficiency of the warehouse form of the supply of consumers with small batches of raw materials, materials and components, which are constantly consumed by them, it is envisaged to expand the long-term economic ties of enterprises on deliveries of products with the manufacturing enterprises. Unlike the plan for the 10th Five-Year Plan, the plan for 1981-1981 stipulates the volumes of output, which is being delivered in accordance with long-term economic ties, with a breakdown by Gosstabs of the union republics and the main territorial administrations of USSR Gosstab.

The volume indicators were elaborated on the basis of the calculation of the standard volume of the output which is subject to deliveries in accordance with such ties. In all during the five-year plan it is planned to deliver products for production engineering purposes in the amount of 192 billion rubles. The increase as against the actually achieved level during the 10th Five-Year Plan will come to 9.5 percent. In 1985 the volume of deliveries of products in accordance with direct long-term and long-term economic ties will amount to 40 billion rubles (in prices of the 11th Five-Year Plan, which when converted into the prices of the 10th Five-Year Plan will come to 46 billion rubles), or 105 percent of the actually achieved level of 1980.

The planned volumes of deliveries of products in accordance with direct long-term and long-term economic ties have been coordinated with the growth rate and structure of production during the 11th Five-Year Plan. They are in complete accord with the adopted policy of the intensification of social production and its development in the direction of resource-saving technology, especially with respect to the use of raw material resources.

A higher growth rate of the deliveries of machine building products in accordance with direct long-term and long-term economic ties has been specified in conformity with the Basic Directions, which envisage the accelerated development of the machine building sectors. In the Main Administration for the Supply and Sales of Chemical and Petroleum Machine Building Production they will increase by 16.6 percent, in the Main Administration for the Supply and Sales of General Machine Building Applications--by 38.4 percent, in the Main Administration for the Supply and Sales of Machine Tools and Instruments--by 19.9 percent as compared with the actually achieved level of 1980.

Assignments on the delivery of products to supply ministries and departments are given for the first time in the plan of the development of direct long-term economic ties. This was done in order to increase their responsibility for the fulfillment of the plans of attachment for the delivery of products to consumers on the basis of long-term contracts.

The accomplishment of the new tasks also dictated the different structure of the plan of the development of direct long-term and long-term economic ties for 1981-1985. It consists of four sections--the product, territorial, sectorial consuming and sectorial supplying sections. The sectorial consuming section is interpreted with a breakdown by the largest production associations and enterprises. Along with this the list of basic, constantly consumed types of raw materials, materials, items and equipment is stipulated, specified and reduced to the all-union classifier. The structure of the products being changed over to these ties has been revised in order to increase the stability of the direct long-term economic ties for individual all-union main administrations for supply and sales.

As a whole with the decrease of the number of converted production associations and enterprises 2,789 types of products were included in the plan of the current five-year plan. This is nearly 800 more types than were stipulated in the 10th Five-Year Plan. As a result the conditions will be created for the increase of the completeness of supply in accordance with direct long-term economic ties. Many production associations and enterprises will receive in accordance with such ties the majority of the types of products which they need for the assurance of the set plan of production.

Thus, in the Middle Volga Main Territorial Administration all the enterprises with mass and large-series production have been converted to direct long-term economic ties for all the basic types of products. The Gor'kovskiy zavod Production Association on the basis of long-term contracts is receiving 1,000 type and grade sizes of rolled metal products, the Krasnaya Etina Plant--18 basic types, the Pavlovo Bus Plant--38, the Kaprolaktam Association--31, the Krasnoyarsk Combine Plant--100 types of products.

A distinctive feature of the plan of the development of direct long-term economic ties for the 11th Five-Year Plan also is the coordination of this plan, which was done for the first time, by the administrations of supply and intersectorial ties of USSR Gosplan and the all-union main administrations for supply and sales with more than 90 ministries and departments with a breakdown by the largest production associations, enterprises and organizations, which are consumers and are subordinate to them. The agreed on volumes make up about 80 percent to the total volumes which are being planned for delivery in accordance with these ties. Organizational work was also performed with the territorial organs of USSR Gosplan on the submission to the all-union main administrations for supply and sales of reciprocal plans of the attachment of consumers to suppliers in accordance with direct long-term economic ties with a breakdown by specific production associations and enterprises which are the consumers and suppliers.

This made it possible for the first time to envisage in the structure of the plan of the development of the advanced form of supply its sectorial breakdown (consuming and supplying) both according to the products list which is supplied through the territorial organs of USSR Gosplan and according to the products list which is realized by the ministries centrally. As a result the responsibility of all the enterprises, which make deliveries in accordance with direct long-term economic ties, for their realization will increase. The decrease of the changes of both the plans of the production of products and the distribution of assets in accordance with the products list, which has been changed over to these ties, without mutual agreement with the organs of USSR Gosplan will be ensured, which will increase their effectiveness.

In the immediate future the ministries and departments need to complete the work on the conclusion by subordinate production associations and enterprises of five-year contracts for the supply of material and technical resources in accordance with direct long-term economic ties. Moreover, particular attention must be directed to the fact that they should conform to the plan of the development of such ties, which has been approved by USSR Gosplan, and to the plans of the attachment of consumers to suppliers, which have been issued for 1981-1985. Steps should also be taken on the strengthening of the influence of these ties on the increase of the quality of the other technical and economic indicators of the products being produced, and effective control should be set up over the fulfillment by subordinate production associations and enterprises of the contractual obligations on deliveries of material and technical resources in accordance with direct long-term economic ties.

State statistical reporting on the sale of products by way of these ties on form No 1 (direct ties), which is submitted annually by consumers to the territorial organs of USSR Gosplan and to the ministries and departments, was established by an order of the USSR Central Statistical Administration of 21 May 1981 for the purpose of monitoring the development of direct long-term economic ties for each production association (enterprise) which is a consumer.

The all-union main administrations for supply and sales, the Gosplans of the union republics and the main territorial administrations of USSR Gosplan should continue jointly with the ministries and departments the work on the assurance of the stability of direct long-term economic ties on the basis of the approved five-year plans

of the production of products, and first of all between the largest production associations and enterprises, having focused the main attention on the substantial increase of the quality and reliability of the supply of consumers with the necessary material resources.

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USE OF COST ACCOUNTING INDICATOR REVIEWED

Supply Context

Moscow MATERIAL'NO-TEKHNICHESKOYE SNABZHENIYE in Russian No 5, May 82 pp 51-52

[Article by A. Yermolova, senior expert of the Gosstab USSR Planning and Financial Administration: "Under the Conditions of Profit and Loss Accounting"]

[Text] The Decree of the CPSU Central Committee and Council of Ministers USSR on Improving Planning and Strengthening the Economic Mechanism's Influence on Raising the Effectiveness of Production and Improving the Quality of Operation requires that supply organs become self-supporting, and that their relations with associations, enterprises and other organizations be based on economic contracts and mutual financial responsibility. The supply and sales main administrations of Gosstab USSR are working closely with the Gostabs of the Union republics and with the territorial main administrations. Until recently, however, relations between them usually were of an administrative nature, and the principles of relations based on economic accountability were absent. The Basic Rules for the Supply and Sales Main Administrations on Establishing Economic Relations with the Territorial Organs of Material and Technical Supply and with the Self-Supporting Organs of Ministries and Other Central Agencies were drafted, approved by an order of Gosstab USSR, and introduced as of 1 January 1980.

What did the Basic Rules accomplish? Rebates of the sold products' wholesale prices from the All-Union industrial associations to the supply and sales main administrations ceased. Now the supply and sales main administrations of Gosstab USSR receive their income from the territorial supply organs, as a proportion deducted from the proceeds of the latter's subordinate enterprises and organizations.

The approved Basic Rules define the mechanism by which these deductions are made. This is very important because the supply and sales main administration of Gosstab USSR must be completely self-supporting and must reimburse the territorial supply organs for the transportation, storage, sorting and selling costs of the products supplied under the system of interrepublic (or interregional) warehouse deliveries in accordance with the main administrations' plans. The main administrations must also earn sufficient profit for the formation of the incentive funds (economic incentive fund, social and cultural services fund, and housing construction fund) and for making payments to the state budget.

In its annual plans Gossnab USSR determines the overall rate of the deductions that the territorial supply organs transfer to the supply and sales main administrations. The rates are set in a differentiated manner, in accordance with the given economic region's share in the total consumption of the products supplied by the main administration in question.

The Basic Rules specify that the territorial organs themselves calculate the payments due the main administrations of Gossnab USSR, and when the deductions are less than what was planned they must render the main administrations an account of the reduction, with data on the quantity, value and percentage of short shipments.

For failure to supply production to an economic region in accordance with the issued plans of attachment [linking producers and users for supply purposes] and schedules, the Basic Rules specify that the rate of the deductions transferred to the main administrations must be reduced. If the shortfall in the fulfillment of the supply plan is less than 3 percent, the overall rate of deductions is reduced by 1 percentage point for every percentage point of shortfall. If the shortfall is from 3 to 5 percent, the reduction is 1.5 percentage points for each percentage point of shortfall. And if the shortfall is over 5 percent, the reduction will be 2 percentage points for each percentage point of shortfall.

But what do the results for 1980 show? The territorial organs withheld 730,100 rubles or 3.4 percent of the planned total income. During the first half of 1981 they withheld 281,000 rubles or 3.1 percent of the planned total income.

At the same time, however, many of the territorial organizations are granting the main administrations of Gossnab USSR an "amnesty," transferring to them the full amount of the deduction even when there are shortfalls in plan fulfillment. This is evident, among other things, from the fact that for a number of the main administrations the amounts withheld are much lower than what the percentage of shortfall in plan fulfillment would warrant.

Incentive funds are formed to stimulate the workers of the main administrations of Gossnab USSR. Allotments to these funds are made every quarter, in accordance with the fulfillment of the indicators that determine the formation of the incentive funds. Fulfillment is calculated on a year-to-date basis.

When there is a shortfall in the fulfillment of the planned deliveries of output (calculated as a running total from the beginning of the year), the allotment to the economic incentive fund for the given period is reduced by 1 percent of the planned fund for every percentage point of shortfall in the planned volume of deliveries.

In 1980 the planned economic incentive fund was 786,000 rubles, but the actual allotments to it amounted to 743,000 rubles, 43,000 less than had been planned. For short shipments in comparison with the issued plans of attachment and schedules, the economic incentive fund was reduced by 35,000 rubles or 4.7 percent. And for nonfulfillment of the profit plan, by 17,000 rubles or 2.3 percent.

In 1980, the supply and sales main administrations of Gossnab USSR received bonuses amounting to 1.2 percent of the wage fund (44.3 percent of the total

... paid during the year) for the fulfillment of especially important tasks, and bonuses amounting to 3.7 percent of the wage fund for the annual results.

Very important under the conditions of profit and loss accounting are the incentives provided for the supply and sales main administrations of Gosplan USSR to place in economic circulation surplus inventories and capital equipment that is not needed. The Basic Rules provide for transferring to the main administrations 50 percent of what the territorial organs receive for their services in disposing of such surplus inventories and unused capital equipment, and under the system now in force the organs of Gosplan USSR are authorized to allot to the economic incentive fund 3 percent of the gross income from the sale of such production, but not more than 10 percent of the planned amount of the economic incentive fund.

How has this incentive been working? In 1980, only the Main Administration for Nonferrous Metallurgy made such an allotment to the economic incentives fund, 400 rubles. None of the other main administrations availed itself of the opportunity to augment the economic incentive fund.

An important factor is the system of planning and reporting the sales volumes and the reimbursement of the costs of sorting the products in interrepublic (or interregional) deliveries according to the plans of the supply and sales main administrations of Gosplan USSR. The results of the first year indicate that the main administrations are not taking advantage of the created economic conditions and are not shipping production to the sorting warehouses. Here are the facts: In 1980, the Bearings Main Administration did not spend a single kopeck of the 300,000 rubles budgeted for sorting. The Hardware Main Administration spent only 6 percent; the Pipe Main Administration, 13.2 percent; and the Nonferrous Metals Main Administration, 38.9 percent. Only the Metal Production Main Administration spent 72.5 percent of its budgeted amount.

The introduction of economic relations between the supply and sales administrations of Gosplan USSR and the territorial supply organs has intensified the need of stricter control of how mutual obligations are being fulfilled. A number of the supply and sales main administrations (the Automobiles, Tractors, Agricultural Machinery and Spare Parts Main Administration; the Electrical Engineering Production Main Administration; and others) organized audits of supply in a breakdown by territorial organs, for a wide list of products. Many of the territorial main administrations (Oka River, Bashkir, Murmansk, and Kamchatka administrations) defined their requirements more strictly toward the supply and sales main administrations and thereby ensured the effectiveness of the elaborated economic incentives.

It should be noted that so far profit and loss accounting has not had the required impact on raising the effectiveness of the entire supply system's operation.

With the introduction as of 1 January 1982 of payments by users for deliveries on the basis of direct long-term economic relations, and of guaranteed complete supply, it is necessary to define the role of each organ, and to elaborate a mechanism for the distribution of the payments among the various levels, and also a system of incentives. The financial self-interest must be strengthened of the supply and sales main administrations in the maintenance of complete

inventories of production at the territorial organs so as to ensure guaranteed complete supply of the users. The time has come to include in the sphere of economic influence also the responsibility of the supply and sales main administrations for the completeness of the schedules and of the users' attachment to the available market allocations. The questions of the central and territorial supply organs' mutual financial self-interest in developing production services, and of more effective incentives to promote the conservation of resources, could be the subjects of future scientific investigations and economic experiments.

In his speech at the November 1981 Plenum of the CPSU Central Committee, Comrade L. I. Brezhnev noted that the entire economic mechanism must be made to conform to the requirement of the slogan: "The Economy Must Be Economical." Also further work on perfecting economic relations within the Gosplan USSR system must proceed accordingly.

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Developing Incentives

Moscow EKONOMICHESKIYE NAUKI in Russian No 7, Jul 82 pp 67-77

[Article by Doctor of Economic Sciences A. Seleznev: "Perfecting Economic Relations"]

[Text] The 26th CPSU Congress set, among other things, the task of "developing in every possible way and strengthening profit and loss accounting on the basis of the five-year plan's targets and long-term economic norms."¹ Since within the framework of a single article it is not possible to investigate all aspects of perfecting economic relations, here we will devote attention only to the most important problems that in this context confront economic practice.

By now hardly anyone will dispute the definition of profit and loss accounting as the economic form in which the law of value manifests itself and, through it, also the entire system of economic laws. However, the conclusions that follow from this definition for economic practice are by no means always drawn. We believe that on the methodological level this situation can be explained by inadequate realization of Lenin's idea that "law is a relationship . . . of or between the essence of objects."² From an economic viewpoint, we believe, the relationship of the essence of objects may be regarded as the relationship between the economic parameters of the functioning of individual enterprises and the corresponding parameters of the development of the economy's branches. In every individual instance these relationships are particular because they reflect the situation of the given enterprise as a unit of the public cooperation of labor. But due to the fact that the manifestation of economic laws at this level is localized, and at the same time in each individual case there can be a deviation in this or that direction from the generalized expression of phenomena, it is extremely important that society--represented by the appropriate state organs--maintain constant control of the process of the enterprises' socioeconomic development. This is possible only when the determining

Parameters of the enterprises' development are reflected in the plans for their economic and social development, and when regulation of the reproduction process by means of planned norms is strengthened at every economic unit. It must be admitted that at present such regulation, in a sectoral as well as a territorial breakdown, has significant shortcomings.

We are convinced that the time has come to systematically reveal how the individual reproduction parameters of the enterprises and other economic formations relate to the corresponding parameters of the development of the individual sectors and of the entire national economy as a whole, i.e., through the system of norms it is necessary to stimulate the collectives to strive for better results that meet the criteria of normal operation under entirely specific conditions, rather than under some entirely ideal average conditions. Only in this case will the norms direct toward better work also the enterprises whose production conditions are more favorable. In a number of instances the results of technically well-equipped enterprises are low in comparison with their production potential. The basis of such phenomena is the absence of sufficiently reliable guidelines for the evaluation of collective labor. For example, there are no normative shift indices for equipment that would stimulate the enterprises to better utilize their productive capital. If there were norms for regulating the process of reproduction (and if the norms were sufficiently stable), evaluation of collective labor would be more flexible, and stimulation of the collectives would be more effective and adequate for real growth, i.e., in comparison with the results at the start of the five-year period.

In the process of perfecting relations based on profit and loss accounting it is essential to differentiate more flexibly the amount of incentive for the collectives and to link it more closely to the final results of their activity. Such a link requires perfecting the forms of public appropriation realized by the enterprises' collectives on the basis of profit and loss accounting. Every economic unit, appearing as a relatively isolated cell within the framework of the association of the entire people, performs not only a production function but also an appropriation function that "is realized only through production itself."³

After all, any cooperation of labor unites people as coworkers by virtue of the fact that they are coowners of property belonging to the entire people. In the process of labor the members of a collective jointly utilize the means of production assigned to them, to produce in accordance with the needs of society, including their own needs as well. At the same time the means of production are used by each worker to earn wages. The satisfaction of society's needs and of personal needs, by means of the production, exchange and redistribution relations, is specifically the process through which the economic realization of ownership takes place. As the classics of Marxism-Leninism pointed out, "If one wishes to deal private ownership a mortal blow, it is necessary to attack private ownership not only as a material state, but also as an activity, as labor."⁴ This also underscores the fact that the social form of labor predetermines the structure of economic relations.

There exist a direct and an inverse relationship between the socially determined nature of labor and appropriation, between the amount of appropriation and the amount of labor. Appropriation by the people as a whole cannot be linked only to social labor's results, the improvement of which is unquestionably the

...ive factor in the development of the system of appropriation. The dynamism and a certain "intensity" of appropriation by the entire people necessarily manifest themselves in stimulation according to the principle: "Better results, appreciable pay." On this basis it is possible to create the prerequisites for a more intensive transformation of socialist relations into communist ones, because at the same time parasitism and the absence of responsibility are entirely excluded.

The link between the reproduction process at the enterprises and the results of collective labor's activity can be strengthened consistently, provided that the contradictory essence of profit and loss accounting as the form in which the entire system of socialism's economic laws manifests itself is properly understood and reflected. If profit and loss accounting is treated in this manner, one cannot help but take into account the contradictory nature and, to a certain extent, the opposite directions of its development. The first direction consists of establishing a firm link between the reproduction process at the economic units and the final results of their operation. This direction reflects the objective reality of commodity-money relations with their new content adequate for the nature of socialism. The necessity of recovering expenditures remains but must not be absolutized, as this is done sometimes when the essence of profit and loss accounting is viewed merely as "the necessity of self-supporting planned expanded reproduction at all units of a sector's economic activity."⁵

It would hardly be right to aim only for the self-supporting development of the sectors within social production's Department I, including the sectors that determine technological progress. Since the economic law of the preferential growth of Department I over Department II presupposes a certain unevenness in the development of the economy's various sectors, this must be reflected in the perfection of economic relations. Consequently, the other direction in which profit and loss accounting is developing is determined by the need to develop the relations of redistribution. This presupposes that the reproduction process at the enterprises must be to some extent independent of the results of their operation. In such a situation it is not possible to be guided solely by the principle of self-financing. Naturally, it would be incorrect to rule out self-financing entirely, especially in the sectors that are developing at relatively slow rates and earning sufficient profit, after transfers of revenue to the state budget, to cover the planned costs of the expansion of production and of social development. At adequately substantiated wholesale prices, such a model of profit and loss accounting can become reality in certain sectors.

To a certain extent the trends in the development of profit and loss accounting reflect the contradictions of the directly social nature of labor under the conditions of commodity-money relations. These contradictions are resolved also through the normative regulation of the process of reproduction. The strengthening of the normative base of economic relations presupposes the formation of correct conceptions regarding the manifestation of socialism's economic laws at the level of the economic units.

The manifestation of the basic economic law in relation to the collectives of self-supporting enterprises and organizations consists in that the ensuring of the satisfaction of needs, and of the individual's all-round development, is mediated through the activity of these collectives, is a definite function of the results they achieve. This is clearly evident in the differentiation of

the extent to which the needs of this or that collective are satisfied, in accordance with the results of the collective's functioning. It seems to us that in the future it will be necessary to devote more attention to the cost-accounting forms of stimulating the development of the workers' creative abilities directly at each work station. Solution of this problem evidently depends on several important factors. First, it is essential to improve the stimulation of the development of production by using more effectively the resources that the enterprises earmark for technical improvement. The insignificant size of the technical development fund (about 1 percent of the value of the productive fixed capital), and also the shortcomings in the material supply of the enterprises with the appropriate resources are not conducive to the liquidation of so-called production bottlenecks. It seems to us that a "model" of enterprise self-financing should be constructed, one that would ensure on a self-supporting basis the real turnover of productive fixed capital, i.e., the replacement of such capital from the depreciation fund not only in value terms, but in physical units as well. The practice of redistributing within a sector the depreciation deductions intended for major overhauls and renovation is now widespread. Equipment is being overhauled repeatedly, and such major overhauls are difficult to control. As a result, according to the reports of industrial enterprises, each item of equipment is overhauled at least three times on average, and the cost of the overhauls exceeds the initial cost of the equipment more than 1.2-fold, and occasionally more than twofold.

The real turnover of fixed capital on a self-supporting basis, and more complete realization of the workers' abilities in the work process can be ensured only if the enterprises are given wider authority to use their depreciation fund. Progress in science and technology demands that we take into consideration the time within which equipment wears out or becomes obsolescent. We must refrain from using dilapidated equipment and from simultaneously channeling the depreciation deductions to the financing of new construction. At the beginning of 1980 the so-called accumulated depreciation in Soviet industry exceeded 15 billion rubles, or about 70 percent of the depreciation earmarked for renovation. The value of retiring equipment in relation to the depreciation deductions for renovation is about 30 percent. All this indicates that depreciation deductions are not being used for their intended purpose. Deprived of their necessary justification, the processes of redistribution breed a parasitic mood and encourage the enterprises to "acquire" fixed capital through repeated and inefficient overhauls of equipment.

Furthermore, closer attention must be devoted to creating at the enterprises conditions for maximally reducing the turnover of personnel due to dissatisfaction with working conditions. From this point of view it will be expedient not to simply link the fund for cultural and social services and housing construction to the economic incentive fund, but also to differentiate more widely the allotments to this fund at the individual enterprises, in accordance with the state of production's social infrastructure. At present the norms for allotments to the fund for cultural and social services and housing construction range from 30 to 50 percent of the economic incentive fund. In our opinion, this does not reflect adequately the real differences in the enterprises' need of resources for the social development of their collectives. Such norms must be elaborated on the basis of a wider differentiation of the allotments to the fund, in accordance with the socioeconomic situation of the enterprises as described in their passports. It is likewise necessary to strengthen normative

control of the process of the collectives' social development. A factor of such control could become, in addition to the production indicators, also the use of the parameters of social development as evaluation indicators; under otherwise identical conditions, the rate of social development should be taken into account when providing incentives for the collectives, and for enterprise managers in particular.

Furthermore, it is very important to use the levers of profit and loss accounting to stimulate the transformation of labor. The point is to strengthen by means of such levers the interaction of the processes of realizing the basic economic law and the law of the transformation of labor in a narrower sense (development of the combination of several trades, etc.). We wish to note that some economists regard the change of the forms of activity, the combination and alternation of trades, as an indication that the law of the transformation of labor is not functioning properly; at the same time they note that the mentioned processes are causing a "transformation" of production relations.⁶ However, it is perfectly clear that a real combination of trades takes place only in the work process and manifests itself in the results of this process; incidentally, this serves as the basis for changing the amount of remuneration for complex labor, and such a change necessarily affects economic relations. As K. Marx noted, the transformation of labor is a "general law of social production, and relations must be adapted to its normal realization." At the same time, the profit and loss accounting aspect of "adapting" production relations to the transformation of labor is still not appreciated fully in practice. In particular, the fact that the Shchekino method is not sufficiently widespread can usually be attributed to the underestimation of the factor of time in the process of stimulating the transformation of labor.

In the 1960's and 1970's the economic mechanism of taking into account the requirements stemming from the functioning of the economic law of socialist accumulation was improved to some extent. Within the sectors the process of accumulation depended to an increasing extent on the amount of profit. This stimulated the development of production at every enterprise. Now the self-financing forms of allocating resources to enterprises give society an opportunity to exercise tighter control over the effectiveness of capital investment in existing enterprises. However, this opportunity is not being utilized fully by far, because budgetary resources are being allotted extensively, without any special limitations. In 1971-1975, over two million new jobs were created in Soviet industry, but there was not enough manpower to fill them. About one million more new jobs were created in 1976-1978, and again the necessary manpower to fill them was not fully ensured. About one-fourth of the total increase in fixed capital during this period proved "superfluous" in terms of the possibilities for attracting manpower.⁸

The self-financing and particularly the credit form of capital investment rule out similar situations. However, the financing of capital investment through credit is developing slowly. The share of credit as a source of financing capital investment is merely about 5 percent. There is practically no control of budgetary financing by normative methods. Under such circumstances accumulation by the entire people takes place predominantly according to the formula "for entire society," and not according to the formula "in accordance with the effectiveness of collective labor." But it is essential that both these formulas be optimally combined. From this point of view it would be desirable to set for

the sectors five-year norms (as a rule, progressively decreasing norms) of budgetary allotments per ruble of capital investment; and for the enterprises operating at a planned loss, five-year norms of budgetary grants per ruble of sales. Such measures would place in perspective every collective's efforts to uncover reserves for raising the effectiveness of production and would provide an incentive to raise profitability as a condition for increasing the rate of accumulation.

Considerable and as yet not fully utilized are the reserves for strengthening self-financing that are associated with the realization of the requirements stemming from the functioning of the law of value, the law of rising labor productivity, and the law of distribution in accordance with the work performed.

The economic form through which it is possible to simultaneously "intensify" the process of reproduction and realize the requirements stemming from the aforementioned economic laws is additional profit, a specifically socialist category that expresses the complex set of relations in conjunction with raising the effectiveness of production during a given plan period, in conjunction with the realization and distribution of the profit from perfecting and expanding production.

Pursuant to the 12 July 1979 decree of the CPSU Central Committee and the Council of Ministers USSR, methods have been developed for determining the markup to the wholesale prices, for efficient and quality products. Thereby K. Marx's thesis that "the value of any commodity is determined by the working time necessary to produce the commodity in its standard quality"⁹ is taken fully into account. To exceed the standard quality characteristics requires the expenditure of more complex labor, in conjunction with which the socially necessary working time for producing a utility value of higher quality usually increases. And since improvement of quality is equivalent to additional production (the reliability of the product improves, its service life becomes longer, etc.), it would be natural to express this process in the indicator of "labor productivity," now calculated on the basis of the standard net output. Unfortunately, this indicator does not fully reflect the effectiveness of collective labor. For the volume of standard net output is calculated as the quantity of products multiplied by the norm that the pricing organs set as a part of the price for the given group of products. Then the results for the aggregate of the products are added up. So far as the quality price markups are concerned, in accordance with the adopted thesis the sum of all the markups must be converted into standard net output, on the basis of the elements of net output contained in the markup. However, the purpose of the quality markup is not so much to compensate for the costs of improving the quality than to express the product's additional utility, conversion of the quality markup into standard net output by means of special coefficients is not always expedient. Likewise important is the fact that the improvement in quality, entitling the product to bear the state emblem of quality, often does not involve a changeover to a different technology and only requires a higher grade of workmanship in the finishing operations, i.e., more complex direct labor. Just as in the case of any indicator employed to measure labor productivity, therefore, we must strive to avoid not only an increase of standard net output--as happened when the indicator of gross output was used--but also its decrease. Both can happen with the present methods of computing standard net output, and it has all the shortcomings characteristic of wholesale prices. A serious distorting factor here is not only the computation of the elements of net output in the quality markup, but also failure to

calculate the "losses" of standard net output in cases when subquality discounts apply. The application of such discounts should reduce not only the profit, but also the indicator of the attained labor productivity, because the parameters of output of inferior quality do not meet the parameters that society regards as standard.

Accurate computation of standard net output is especially important in the sectors where substantial volumes of production in process are carried over. The approved methodological instructions for computing standard net output provide a coefficient for converting production in process into standard net output. This coefficient is based on the conditions that existed when it was set, and therefore it reflects essentially the situation that existed "yesterday," i.e., the initial proportions of wages plus extra pay, and of profit, in relation to the total volume of production in process. Thus it turns out that the long-term factor in converting the production in process into standard net output is the "starting" labor intensity of production, which rarely is identical with the labor intensity in the subsequent period. The degree of reliability depends to a large extent on the substantiation of the net output norms themselves. Very often these norms are computed without any serious analytical review of the calculations. This applies particularly to prices and norms approved locally. As a result, instead of differences in the profitability of products based on their material intensity, there appeared differences in profitability based on labor intensity. It is noteworthy that many enterprise managers associate the prospects of using standard net output not so much with incentives for better work than with the "advantageousness" of the norms themselves.¹⁰

It should be noted that the use of the indicator of standard net output in its present form, where the proportion of income (profit) is included usually on the basis of the sector's average profitability, does not stimulate adequately the rise of labor productivity at the enterprises that have already attained the sector's average parameters; it does not encourage the attainment of better results at the enterprises that are operating well but still have considerable reserves for the further perfection of their operations. The tendency to equalize when planning profitability curbs interest in producing unique products that require workers with the highest qualifications. This applies particularly to the scientific-industrial associations. It is hardly proper to apply the sector's average profit rate to scientific-industrial associations, even in the case of a family of products that are based on common technical principles. Sectoral average profit rates provide an incentive to keep on producing products developed earlier; they cannot help but discourage the efforts of the scientific-industrial collectives to develop ever newer models of their products. The profitability norms within the system of scientific-industrial associations must be made stricter, yet they have to be group norms, and not the average norms for the sectors in question.

The use of standard net output as the indicator for measuring labor productivity characterizes the growth of the output's physical volume during a given period; after all, the norm practically performs the function of unchanged price. With the help of the norm, the value is calculated of the entire physical volume of output but without the cost of materials, which gives us an idea of the net product's stable measure. In this respect the indicator of standard net output offers significant advantages over the indicators of gross output and commodity output. Practice shows, however, that the utilization of these advantages is

far from perfect. In addition to the above-mentioned other factors that distort the magnitude of standard net output, it is necessary to eliminate also the result of actually bringing the output to the user. It is important not to include in the volume of standard net output the products that are rejected by users, including also the amounts of the applicable sanctions. Whatever is produced without the necessary regard for the needs of society in their structural and qualitative aspects, whatever is rejected by the users and not placed in use, is not utility value and cannot be included in the volume of net output, which applies also to net output in value terms. From this point of view the most reliable way to employ the indicator of standard net output is to calculate it on the basis of the actually sold output, accurately reflecting the quality markups and subquality discounts, as well as the amount of commodities rejected by the users. In our opinion, the effectiveness of the indicator of actually sold net output, which is important from the viewpoint of determining the amounts of the allocations to the funds, should be verified experimentally. This indicator reflects the economical use of material resources, the production volume's growth, delivery of the output to the users, the quality markups and subquality discounts, and the reduction of the volume of production in process. At the same time it should be borne in mind that the indicator of standard net output is more suitable for measuring the level of labor productivity. In view of what has been said above, it will obviously be expedient to use both indicators simultaneously.

The prerequisites for using the indicator of actually sold net output are the further perfection of pricing, and the payment of suppliers on the basis of the output actually accepted and approved by the user, rather than on the basis of the instruments of payment. The use of this indicator, we believe, better meets the tasks of implementing the Decree of the CPSU Central Committee and the Council of Ministers USSR on Intensifying Efforts for the Economical and Efficient Use of Raw Materials, Fuels, Power and Other Material Resources. For if economization of resources as a factor of higher profit becomes the source from which bonuses are paid for economization, it is important that economization be reflected first in the dynamics of the fund-forming indicator such as the indicator of labor productivity, and then in the magnitude of the economic incentive fund. Here the logic is quite simple: in the final outcome, the resources for the payment of bonuses come from the economic incentive fund.

For perfecting the mechanism of stimulating the collectives it is of basic importance to reflect in the system of evaluating indicators the actual processes of raising the effectiveness of production. It is necessary to stimulate to a greater extent the processes associated with the realization of additional profit. Since the development and introduction of new equipment are a factor of the economic effect's growth, stronger economic stimulation of this process is important. Unfortunately, bonuses for the development and introduction of new equipment are not widespread as yet, as evident from the data in the following table.

Economically it is expedient to bring the proportion of bonuses for the development and introduction of new equipment, in relation to the amount of additional profit, closer to the proportion of wages within the net output of the given sector. In other words, the proportion of bonuses for the development and introduction of new equipment within the additional profit should be increased severalfold. Appreciable bonuses firmly linked to the amount of real additional profit could become an important factor in stimulating technical progress.

Table 1. Economic Effect of Introducing New Equipment, and Bonuses to Workers for Developing and Using New Equipment in Soviet Industry (Rubles)*

<u>Per production worker in Soviet industry</u>	<u>1970</u>	<u>1975</u>	<u>1980</u>
Annual economic effect of introducing new equipment	85.2	112.2	129.6
Annual additional profit from measures concerning the introduction of new equipment	62.4	83.0	87.1
<u>Used for bonuses</u>	4.9	6.1	6.8

*Computed on the basis of data from "Narodnoye khozyaystvo SSSR v 1979 g." (The Soviet Economy in 1979), Moscow, 1980, pp 112, 387, 394 and 550; and from "Narodnoye khozyaystvo SSSR v 1980 g." (The Soviet Economy in 1980), Moscow, 1981, pp 101, 364, 357 and 519.

Naturally, the bonuses must be limited, and a ceiling for them must be set. But this should not be done in such a way that the average pay of the engineering and technical personnel, who develop the new equipment, will be lower than the average pay of blue-collar workers, as is now often the case. Unjustifiable equalization in distribution must be overcome, and a set of measures should be introduced, including economic incentives, to enhance the prestige of the engineering personnel. Specialists who have a certain "portfolio" of new ideas already introduced in production, as proven by certificates of invention, should be given personal merit salaries substantially higher than the 30-percent maximum increase at present.

In every country in the world, the process of production intensification is accompanied by the high prestige of engineering personnel. Earlier, in the 1920's through the 1950's, this had been clearly the practice also in the Soviet Union. A drastic change in the ratio of the average pay of blue-collar workers to that of engineering and technical personnel occurred in the 1960's and 1970's, in the direction of wage equalization. This of course is based on the rise of the blue-collar workers' skills. In our opinion, however, this cannot serve as an adequate justification. After all, the qualifications of engineering personnel also have risen, and so have the requirements they must meet. As a result, the evolved average pay of an engineer is by far not always commensurate with the level of his qualifications and the requirements set for him. Moreover, today the pay of engineering and technical personnel is hampering in many instances the utilization of the potential of this large personnel. We believe that the ratio of the pay of blue-collar workers to that of engineers and technicians must be changed, by significantly raising the average pay of the latter. In this context we recall that in 1940 the average monthly pay of a blue-collar worker in industry was 32.4 rubles, while that of an engineer or technician was 69.6 rubles or higher by a factor of 2.1. In construction this factor was 2.42. By 1960, these coefficients dropped to 1.51 in industry and 1.56 in construction; by 1970, to 1.36 and 1.34; by 1975, to 1.23 and 1.15; and in 1980, to 1.15 and 1.02 respectively.¹¹ This situation can hardly be regarded as normal under conditions when the economy must change over to the path of intensive development, and the tasks must be solved of developing equipment and technology that are able to compete on foreign markets. The measures adopted recently to raise wages in the coal industry and in light industry also serve to enhance the prestige of the engineers and technicians in these sectors. Similar measures will have to be introduced also in the engineering sectors, since they

set the pace of technological progress. It would be very important to increase the differentiation of the salaries for engineering and technical posts, in accordance with the profitability of the departments, shops and brigades that employ internal profit and loss accounting.

Implementation of the decree that provides one-time bonuses for workers in engineering, from the resources of the unified fund for the development of science and technology, will serve to provide more economic incentive for the technical creativity of engineering personnel. This decree calls for paying the following bonuses for the development of new equipment or technology: up to 900 rubles for the chief designers (project leaders); up to 75 percent of the chief designers' bonuses for their deputies; and not less than 50 percent of their salaries for the other participants, depending on the extent of their contribution. However, from the conditions for the payment of one-time bonuses for the development of new equipment or technology, and for the mastering of their production, it follows that such bonuses are unable to "single out" the bulk of the engineers in terms of the level of their pay. Since the solution of this problem requires financial resources, it is essential to cooperate in every possible way on spreading the experience with forming engineer-designer brigades, the members of which may receive pay increases from the wage-fund savings and the wages budgeted for posts that are vacant, as this is being done at the Ul'yanovsk Heavy Machine Tool and Milling Machine Plant. The experience with the designer brigades formed here is very edifying: the 252 persons who make up the brigades are performing the same amount of work that normally required 338 specialists. Thus the higher pay of the engineering and technical personnel is based on stronger economic self-interest in raising labor productivity, and in developing equipment and technology that are more resistant to obsolescence. The time during which equipment becomes obsolescent (it can be measured objectively) can be expected to lengthen by raising the prestige of the engineering personnel, whereby the technical solutions will become more mature. Without this it would be difficult to rid ourselves of the costly and frequent design improvements of capital goods and durable consumer goods, of the constant minor "perfections" of technology that yield a small return. Real solution of this problem will directly affect the greater effectiveness of accumulation, the fuller utilization of the social factors of production growth.

An important aspect of taking more fully into consideration the requirements stemming from the economic law of distribution in accordance with the work performed is that the distribution of profit must be specifically targeted, and economic sanctions must be combined more flexibly with the conditions of distribution. Since sales of goods and services definitely determine the ratio of costs to profit, the level of the costs of production and distribution, sales are a form of recognizing the quality of the work of all units in the cooperation of labor, including the sectoral administrative organs. Therefore it is necessary to link incentives more closely to sales. This applies particularly to organizing the stimulation of the administrative apparatus of the ministries and other central agencies, where extremely negative aspects of formalism are evident. A certain "automatism" of stimulation that has evolved here leads to paradoxical situations: individual results are good, but the final result shows substantial losses for the national economy. Without stricter responsibility for the performance of actual administrative functions, the economy cannot be switched to the path of intensive development.

A step ahead in combining stimulation with the instruments of responsibility has been the adoption of the new statute concerning the accounting and fulfillment of the tasks and obligations for the supply of products on the basis of economic contracts. It has been deemed expedient to employ maximum permissible norms of short shipment (from 1 to 3 percent) that entitle enterprise (or association) managers to bonuses. A schedule for the reduction of these bonuses has been set for a 1-, 2- and 3-percent shortfall in the fulfillment of deliveries.¹² But even now it is possible to obtain premiums even though the plan for deliveries in accordance with the contracts is not fulfilled. In our opinion, this is an indication of the very low level of the economic and legal protection provided for the interests of the user and of society as a whole. Responsibility for plan fulfillment, which the 26th CPSU Congress placed in the forefront of attention in working with economic personnel, will necessarily contain elements of formalism so long as any rewarding of the plan's nonfulfillment is tolerated.

It is necessary to change also the system of incentives for officials of the administrative apparatus of the ministries and other central agencies. The system of deductions from the centralized funds for the stimulation of the administrative apparatus, which was in force under the 10th Five-Year Plan, has been extended without any change also for the current five-year plan.¹³ No particular changes have been made so far in the mechanism of responsibility at this level, although they are overdue. Increased responsibility requires a radical revision of the entire system of economic sanctions, and particularly the presentation of claims to the sectoral administrative organs, to the extent that they are involved in the nonfulfillment of the plan and in its corrections, at every unit participating in the sectoral division of labor. The number of corrections and their depth, and the extent of the fulfillment of the plans for the collectives' social development likewise should be included among the conditions that must be met to qualify for incentives. It is especially important to emphasize that, contrary to the opinion of P. Bunich, the responsibility of the sectoral administrative organs cannot be linked to the magnitude of the centralized funds.¹⁴ To increase the responsibility of these organs a salary and bonus system will be sufficient under which payments to these officials will directly depend on the effectiveness with which they perform their administrative functions. The funds for economic maneuvering, centralized at the level of a sector or large association, should not be used to offset the losses caused through the fault of the administrative organ. Such funds are necessary to guarantee resources for plan fulfillment in the case of temporary financial difficulties. The use of centralized funds to "insure" the sectoral organs against the consequences of their hasty decisions would result in their stimulation without any responsibility.

In his report at the May 1982 Plenum of the CPSU Central Committee, Comrade L. I. Brezhnev said in part: "The effectiveness of agriculture cannot be raised without stable economic conditions for real, and not perfunctory, profit and loss accounting."¹⁵ Without such conditions it is impossible to raise the effectiveness of our entire economy.

FOOTNOTES

1. "Materialy XXVI s"yezda KPSS" (Proceedings of the 26th CPSU Congress), Moscow, 1981, p 198.
2. V. I. Lenin, "Polnoye sobraniye sochineniy" (Complete Works of), Vol 29, p 138.

3. K. Marx and F. Engels, "Sochineniya" (Works of), 2nd edition, Vol 46, Part 1, p 483.
4. K. Marx and F. Engels, op. cit., Vol 42, p 242.
5. P. G. Bunich, "Upravleniye, ekonomicheskiye rychagi, khozraschet" (Administration, Economic Levers, Profit and Loss Accounting), Moscow, 1976, p 14.
6. Cf. I. Matskulyak, "About the Essence of the Transformation of Labor," EKONOMICHESKIYE NAUKI, No 3, 1982, pp 17-18.
7. K. Marx and F. Engels, op. cit., Vol 23, p 499.
8. Cf. KOMMUNIST, No 18, 1980, p 32.
9. K. Marx and F. Engels, op. cit., Vol 23, p 184.
10. We refer, for example, to the statement that specifically "the high net output norms for spare parts and consumer goods have made their production advantageous for the plant" (Cf. A. Petrov and E. Pazychuk, "From the Experience with Planning the Operation of an Enterprise," PLANOVYE KHOZYAYSTVO, No 2, 1982, p 63).
11. Computed on the basis of data from "Narodnoye khozyaystvo SSSR v 1972 godu" (The Soviet Economy in 1972), Moscow, 1973, pp 516-517, and "Narodnoye khozyaystvo SSSR v 1980 godu" (The Soviet Economy in 1980), Moscow, 1981, pp 364-365.
12. Cf. EKONOMICHESKAYA GAZETA, No 44, 1981, p 16.
13. Cf. EKONOMICHESKAYA GAZETA, No 40, 1981, p 16.
14. Cf. P. Bunich, "Profit and Loss Accounting Methods at Every Level of Sectoral Administration," EKONOMICHESKIYE NAUKI, No 7, 1980, p 19.
15. L. I. Brezhnev, "On the Food Supply Program of the Soviet Union for the Period Through 1990 and Measures for Its Realization," report at the 24 May 1982 Plenum of the CPSU Central Committee, PRAVDA, 25 May 1982 p 2.

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Mergelov Book Reviewed

Moscow DEN'GI I KREDIT in Russian No 12, Dec 81 pp 69-71

[Review by G. V. Bazarova, doctor of economic sciences, of book "Khozraschet v sisteme upravleniya otrasl'yu" [Profit and Loss Accounting in the System of Sectoral Administration] by G. S. Mergelov, Moscow, Ekonomika, 1980, 237 pages]

[Text] G. S. Mergelov's book is devoted to an analysis and generalization of the new and as yet inadequately investigated phenomena in the sphere of profit and loss accounting, of the first attempt to employ self-supporting methods of economic activity on the scale of an entire sector. Basically the data of instrument making are investigated, the first sector within our industry to employ self-supporting methods of economic activity on such a wide scale. The experience accumulated in this sector (over a period of ten years) is unique. Other ministries (Ministry of Heavy and Transport Machine Building; Ministry of Tractor and Agricultural Machine Building; Ministry of Power Machine Building; and

Ministry of the Electrical Equipment Industry) have changed over to similar methods of economic activity only recently, in the late 1970's, although they too (and the Ministry of the Electrical Equipment Industry in particular) have significantly enriched the practice of profit and loss accounting, thanks to the successful application of its principles in the sphere of sectoral science and the mastering of new technology. The experience gained by the Ministry of Instrument Making, Automation Equipment, and Control Systems, the Ministry of the Electrical Equipment Industry, and several other ministries was utilized in the elaboration of the set of measures for perfecting the economic mechanism, reflected in Decree No 695 of the CPSU Central Committee and the Council of Ministers USSR.

Under the conditions of the coming extensive changeover of the industrial ministries to the self-supporting methods of economic activity under the 11th Five-Year Plan, comprehensive investigation of the available experience is particularly important since it can make the changeover itself to these methods easier, can help to avoid the pitfalls and to eliminate the shortcomings in planning and in the methods of economic activity in the course of implementing the proposed set of measures.

The novelty and timeliness of the problems investigated in G. S. Mergelov's book are combined with a thorough theoretical and methodological elaboration of these problems. The new phenomena in the area of profit and loss accounting, associated with the expansion of its sphere and with the application of its principles to larger economic complexes, sectors and subsectors, are viewed as the law-conforming development of these relations, as an objective process that arises in the present stage of economic growth, under certain conditions and prerequisites.

The book investigates the essence of profit and loss accounting, its formation and development, the basic features of profit and loss accounting in the present stage, the problems of complete profit and loss accounting and the conditions for the economic methods of management, the interaction between profit and loss accounting and centralized planning, the conditions and prerequisites for the changeover of industrial sectors and subsectors to self-supporting methods of economic activity, and the methodological principles of planning and financing expanded reproduction on the scale of a sector or subsector under the conditions of complete profit and loss accounting. It analyzes the normative method of profit distribution, the problems of financial responsibility and economic stimulation of the administrative apparatus, and also the problems of computerizing the processes of managing self-supporting complexes.

The monograph presents profit and loss accounting as an intricate and complex economic category, as a system of socialist economic activity. On the basis of generalizing the practical experience and analyzing the range of views that are being discussed in the press regarding the essence of profit and loss accounting, the author uncovers in detail its generic characteristics. By profit and loss accounting he means the economic conditions of the self-supporting units' operation, the organizational principles on which these units are based, and also the functions that characterize profit and loss accounting's intended purpose.

Analyzing the new phenomena in the sphere of profit and loss accounting and the expansion of the sphere of economic relations, the author contends--and correctly so, in our opinion--that in a global sense the sectors and subsectors may be

regarded as commodity producers. The sector and subsector are relatively separate economic formations, within which the process of reproduction causes a continuous circulation of capital. Which means, in the author's opinion (and one cannot but agree with him), that under the conditions of present-day production, with its complex economic relations, there is a need for not only production integration but also economic integration at the intermediate and top levels of the sectoral structure, based on the principles of profit and loss accounting.

For an understanding of the specifics of sectoral profit and loss accounting it is important to clarify the role and place of the primary level--of the industrial associations and enterprises--in the system of self-supporting relations. In this context it should be noted that although the author contends that a sector has all the economic conditions necessary for self-supporting economic activity, and that all the principles of profit and loss accounting are able to function at the sectoral level (with due consideration for the specifics of the sector in question), he does not deny that the associations and enterprises remain the basic units of profit and loss accounting. The monograph correctly notes that the real process of reproduction takes place in the primary or basic units, while the sector appears as the aggregate of the economic subjects. In the production process within a sector there basically takes place the circulation of the aggregate capital assigned to the units at the basic or primary level; consequently the sector's ability to support itself and its profitability are not of an independent nature. But at the same time, as the author justifiably emphasizes, sectoral and subsectoral monetary resources (the centralized funds and reserve funds) participate to a certain extent in the process of reproduction; the sectoral level performs also a controlling function in comparing incomes and expenditures in the process of the circulation of capital; and the sector as a whole deals with the state as a single specialized complex.

The starting point for correctly defining the place and role of profit and loss accounting in the organization of the activity of all economic units (of the sectoral complexes as well as of the primary units) is the interaction between centralized planning and profit and loss accounting. Here the author correctly points out that centralized planning plays the leading role. Profit and loss accounting is organically linked to planning; relations based on such accounting are plan-conforming, but profit and loss accounting is subordinate to a plan-conforming basis; and herein lies the main feature of the interaction between planning and profit and loss accounting. We would like to call special attention to this idea of the author's, because it determines the proper presentation of the entire problem investigated in this book.

Of special interest are those chapters of the monograph (the third and fourth) in which the instrument making industry's experience with the application of profit and loss accounting methods of management are analyzed, the results of the sector's operation under the new conditions of economic activity are analyzed, the more important elements of the new system are investigated, and the possibilities are identified for the further perfection of some of these elements. At the same time attention is focused on the financial mechanism of relations based on profit and loss accounting and self-financing. As the author correctly points out, this financial mechanism is the most active link in the system of sectoral profit and loss accounting. The principles of profit and loss accounting and independent financing have broadened the independence of the ministry

and of the all-Union associations especially in matters pertaining to the management of their financial resources; they have helped to consolidate the sector's financial base while at the same time strengthening the position of the state budget.

The author analyzes in detail the practice of ensuring the reproduction process within the sector through self-financing, the interrelations between the sector on the one hand and the state budget and the credit system on the other, the experience with normative profit distribution, with the formation and use of financial reserves, and certain other financial aspects of the operation of the sector and of its subdivisions under management methods based on profit and loss accounting.

The Ministry of Instrument Making, Automation Equipment, and Control Systems is one of the few ministries that, after the changeover to operation under profit and loss accounting, have been able to fully ensure expanded reproduction through self-financing, unalterably throughout two five-year periods. Thanks to the high profitability and the relatively small volume of capital investment, the ministry has been able to avoid throughout all these years not only budgetary grants, but practically even long-term credits.

But at the same time it should be noted that complete self-financing of capital investment on the sectoral level has been achieved at a substantial increase in the volume of financial resources redistributed within the sector. Whether this form of financing is more expedient and effective than direct credit financing by the bank of the corresponding expenditures when the individual associations and enterprises do not have sufficient resources of their own, remains an entirely controversial question. Regrettably, the author does not investigate this aspect of the problem.

But at the same time we regard as worthy of consideration the proposals that Gosbank and Stroybank extend the contracting organizations credit for the duration of the projects' standard construction time, until the completed projects are transferred entirely to the customers (it will be remembered that Decree No 695 of the CPSU Central Committee and the Council of Ministers USSR, issued 12 July 1979, contained provisions for this); and also that Gosbank institutions pay interest on the net balances on the enterprises' accounts, so that the self-supporting units may be on an equal footing in their mutual relations with the bank.

Considerable space is devoted in the monograph to analyzing the practice with the application of the normative method of profit distribution, and to arguing the proposals for strengthening its stimulating role, and also the role of the capital use charge when that method is employed. Exploring the economic advantages of normative profit distribution, the author focuses his attention on an analysis of the causes that prevent the full use of these advantages and make the economic norms unstable. In this context the work perceives as a central task the real conversion of the five-year plan of economic and social development into the principal form of planning, based on genuine scientific substantiation and balancing of the plans, on the elaboration of material balances for the more important types of products, on closer coordination of the production plan and capital construction plan with due consideration for the real startup of production capacities at the projects under construction, on ensuring the stability of the wholesale prices throughout the entire five-year plan, and on creating a

system of emergency reserves at every level of the planning and management of production. The need is emphasized of drafting five-year financial plans, of studying and approving them simultaneously with the plan of economic and social development, and also of approving the economic norms of profit tax together with the other basic indicators of the five-year financial plan, so as to strengthen their legal status. Here it will be appropriate to note that the author first advanced these proposals already in 1975, in his book "Khozraschet promyshlennykh kompleksov" (Profit and Loss Accounting of Industrial Complexes).

The author deserves credit also for his detailed elaboration of the problem of mutual economic responsibility under the conditions of complete profit and loss accounting, which ensures the principle of equality in relations between the different levels of social production's management, including the functional administrative organs. Likewise of considerable interest are an analysis of the system of economic incentives employed in the instrument industry for the administrative apparatus, and the proposals for perfecting this system.

However, the reviewed work is not without its shortcomings. In particular, in the course of defending his standpoint on the essence of profit and loss accounting, the author investigated critically and in detail the views expressed in the press on this issue, including the interpretation of profit and loss accounting simultaneously as an economic category and as a method of economic operation (management). We believe that such an approach has sufficient justification. Perception of profit and loss accounting as an economic category reveals its objective foundations, its inclusion among the production relations whose specific and important aspects it reflects. Perception of profit and loss accounting as a method of management (economic operation) identifies it as a part of the economic mechanism, expresses the aggregate of the rules, methods and modes of organizing the economic activity of enterprises, associations and other larger economic complexes, enabling them to realize the principles of profit and loss accounting, to express the essence of this category, and to create the conditions for the manifestation of its functions. In the given case we are speaking essentially of the profit and loss accounting mechanism as an important part of the economic mechanism as a whole.

The monograph investigates a wide range of questions concerning the theory, methods and practice of profit and loss accounting at the sectoral and subsectoral levels. At the same time the work does not investigate in the necessary detail the problems of introducing the principles of profit and loss accounting into the sphere of sectoral science and the mastering of new technology, of the formation and use of an integrated fund for the development of science and technology, etc. Pursuant to Decree No 358 of the Council of Ministers USSR, issued 11 May 1978, the scientific-research, design, planning-and-design, and technological organizations, enterprises, industrial and scientific-industrial associations of the Ministry of Instrument Making, Automation Equipment, and Control Systems have changed over to the new system of planning, financing and economically stimulating work on the development of new equipment, and consequently some experience with its application within the sector has already accumulated.

One of the shortcomings in organizing the experiment within the Ministry of Instrument Making, Automation Equipment, and Control Systems was that the normative method of profit distribution was not applied prior to 1980 to any industrial association (or enterprise). In conjunction with this the sector has

practically no experience with the application of long-term profit distribution norms at the basic (primary) level; regrettably, this problem is likewise not investigated in the book.

On the whole the monograph of G. S. Mergelov is of scientific and practical interest. It represents a certain contribution to the investigation of this important national economic problem.

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INVESTMENT, PRICES, BUDGET AND FINANCE

UTILIZATION, SHORTAGE OF WORKING CAPITAL DISCUSSED

Intensification, Turnover

Moscow EKONOMICHESKAYA GAZETA in Russian No 26, Jun 82 p 12

[Article by V. Pashkovskiy, chief of a sector of the Scientific Research Institute of Finance, and Ye. Podvinskaya, senior scientific associate: "Working Capital: The Efficiency of Use"]

[Text] A vital aspect of the intensification of the reproduction process is the intensive utilization of productive working capital and the acceleration of the turnover rate of working capital. At the beginning of 1981 for the national economy as a whole its amount came to 436 billion rubles. Physical working capital makes up 17 percent of the national wealth of the country.

Under the Conditions of Intensification

The peculiarities of the intensive utilization of working capital are due to its functional role in the reproduction process as working capital and cash and disposable stock, which are expressed in monetary form. The former--raw materials and basic materials, component semimanufactures, auxiliary materials, fuel, packaging--are found in the process of production in the form of production stocks, inventories of unfinished production and of future periods and other physical assets. The cash and disposable stock are represented in the form of finished products (in the warehouse, shipped and turned over to the buyer), as well as money in current accounts and in the cashier's office of the enterprise, which is needed for the purchase of raw materials and materials and for other expenses. Working capital in the process of reproduction gradually moves from one stage of reproduction to another and appears first in the form of working capital and then in the form of cash and disposable stock. Therefore, the possibilities of its intensive utilization pertain both to the sphere of production and to the sphere of circulation and concern both the amount of resources being used and the time of its turnover.

It is a question not only of decreasing the expenditures of raw materials, materials and fuel per unit of output. From a national economic point of view it is also important to decrease relatively the amount of material resources committed to the economic turnover in physical and value form. The time factor is acquiring particular importance here. The intensification of production processes and the shortening of the period of production and the work period are shortening the time of the production of finished products.

On the other hand, the acceleration in the sphere of circulation of the sale of finished products and the purchase of new raw material resources also shortens the reproduction cycle. Thereby the movement of working capital is also expedited, its required amount is reduced. The capital released in this way becomes an additional source of the expansion of social production. In industry, for example, the speeding up of the turnover by only 2 days will make it possible to decrease the amount of material resources by nearly 3.5 billion rubles.

Progressive changes in the structure of working capital are of great importance for the intensification of production. Commodity stocks, the proportion of which at the beginning of 1981 in industry came to 80.9 percent, hold the main place in it.

Structure of Working Capital in Industry
(at beginning of the year; percent)

	1975	1980
Working capital, total.	100.0	100.0
Commodity stocks.	80.2	80.9
Shipped commodities	8.6	8.2
Monetary assets	6.2	6.0
Accounts receivable	4.0	3.8
Other working capital	1.0	1.1

The decrease of the proportion of production stocks with the simultaneous increase of the proportion of unfinished production and a relatively stable level of the other parts (the expenditures of future periods, finished products, commodities and other physical assets) is the general trend of the change of the structure of the commodity stocks. Thus, whereas in 1975 the production stocks in industry accounted for 60.2 percent of the commodity stocks, in 1980 they accounted for 59.4 percent. The proportion of unfinished production during this period increased from 20.6 percent to 22.4 percent.

At the same time the tendency for the proportion of the working capital, which is in the sphere of circulation, as well as the length of the turnover of working capital to increase is appearing, which is adversely affecting the increase of production efficiency.

The intensification of the occurrence of economic processes in the sphere of production and circulation to a considerable extent characterizes the period of time, which is necessary for the purchase of raw materials and materials, the production of the finished products and their sale. This indicator of the turnover rate of working capital is calculated in days as the ratio of its amount to the 1-day volume of the production or sale of products. For industry as a whole the turnover rate of working capital in 1981 came to 85 days.

For the increase of production efficiency it is important for the output of products to be ensured with a relatively lower lever of the working capital. Meanwhile in recent years this indicator has begun to worsen as a result of the slowing of the turnover rate of working capital (see the table).

Turnover Rate of Working Capital

	1965	1970	1975	1980
Working capital in industry (billions of rubles) . .	53.7	78.8	104.9	143.8
Total volume of industrial output (billions of rubles)	229.4	374.3	511.2	616.3
Turnover rate of working capital (days)	85.4	76.8	74.9	85.2

Whereas in 1970 there were 4.75 rubles of gross output of industry per ruble of working capital, while in 1975 there were 4.87 rubles, in 1980 there were 4.28 rubles. The ruble of working capital, consequently, began to "serve" less industrial output, the diversion of national economic assets for these purposes increased not only absolutely, but also relatively.

The influence of such objective factors as the increase of the cost of raw materials and basic materials due to the worsening of the conditions of extraction and the increase of the distance of transportation, the complication and lengthening of the technological cycle of production, the inadequately complete utilization of the potentials of the economy and the existence of above-standard stocks at a number of enterprises had an effect here.

Such shortcomings in economic operations as the failure to observe delivery dates, the incompleteness of the products being delivered, the unsmoothness of production and the untimely assimilation of advanced technology also influence the slowing of the turnover rate of working capital. Moreover, the shortcomings in the use of means of transportation and in the organization of the financial and credit mechanism, especially the imperfection of the methods of influencing the acceleration of the turnover rate, have an adverse effect.

At the same time one must also take into account such an objective cause as the changeover to the output of technically more complicated types of products, which require more time for production.

In the calculations for the plan and budget for 1982 it is envisaged to speed up the turnover rate of working capital by 0.8 day, which ensures the additional commitment to the economic turnover of material resources worth 1 billion rubles.

The increase of the efficiency of the utilization of working capital in many ways depends on the improvement of the procedure of its planning and formation.

Means of Speeding Up the Turnover Rate

At present not the entire amount of working capital, but only that of the internal working capital, which the enterprise is allotted in conformity with the standards, is planned in the financial plan of the enterprise. Moreover, the amounts of the standards are established in accordance with the minimum level of the physical assets needed by the enterprise in the case of the optimum version of supply. At enterprises, which are distinguished by a seasonal nature of production, they are established in accordance with the volume of the production of output in the case of the greatest drop of production.

A developing shortage of working capital is covered by bank credits, which are indicated not in the financial, but in the credit plan of the enterprise. Such a separate planning of working capital according to the sources of its formation hinders, in our opinion, the establishment of effective control over the amount of the working capital and cash and disposable stocks, which the enterprise really needs.

The point is that the total amount of credit resources is not limited for enterprises, and this decreases their economic liability for the freezing of working capital in above-standard stocks. The opportunity arises for them to maintain above-standard amounts of raw materials and other physical assets, which arise as a result of overstated norms of production and marketing stocks and the imbalance of the plans on production and supply.

The collection of interest on credit, as the study showed, has little influence on the economic interest of enterprises in reducing the stocks of physical assets. The interest for planned credits is collected from that portion of the profit, which is intended for transfer to the budget, and not to the economic stimulation funds.

The influence of credit on the formation and utilization of working capital has also been weakened because enterprises have various kinds of extraplan sources of financing, including the indebtedness to suppliers, which arises as a result of the delay of payment of bills after the receipt of commodity stocks. The accounts payable serve as a financial reserve of the accumulation of additional, frequently excessive stocks.

Indicators and Standards

For the efficient organization of working capital, in our opinion, it is necessary to improve the prevailing system of indicators. It is expedient, first, to plan the turnover rate of the working capital for which standard rates are laid down as an indicator for guidance. The main attention should be devoted to production stocks. The assignments on the speeding up of the turnover rate by years of the five-year plan can be based on the standards of the material expenditures, that is, the rates of consumption of raw materials and basic materials in value terms, as well as the norms of production stocks.

Second, on the basis of the planned turnover rate it is necessary to establish the planned amounts of all working capital in physical assets, which should serve as a guideline when monitoring its movement. In other words, standards of working capital as a whole, which is formed both by means of the internal financial sources of enterprises and attracted outside assets and by means of borrowed assets--bank credit--are needed.

The establishment of the standards of the total amount of working capital and the indicator of its turnover rate will make it possible to control effectively the amount and movement of the material and financial resources which have been committed to the economic turnover. In addition to the already formed system of cost accounting indicators of the use of resources in the production cost (such as the production cost, the limit of material expenditures, the materials-output ratio and others) these indicators afford the opportunity to control their use more effectively in the sphere of circulation and the reproduction process as a whole.

The establishment of the planned amounts of working capital will require, of course, some changes in the organization of credit as well. The proportionate participation of bank credit in the formation of normed stocks--in the form of lending for the turnover, which at present is not used in all sectors, or for the total need for borrowed assets, which at present is not used in practice at all--might be, in our opinion, the most acceptable form.

In the case of the issuing of credits not against individual types of physical assets, but in general for meeting the additional need for working capital the opportunity exists to take into account both the total planned amount of working capital and all the internal and other resources at the disposal of the enterprise, having reduced the amount of granted credit by their amount.

Lending on a proportionate basis with the monthly verification of the provision of credits will make it possible, in our opinion, to solve the question of the efficient use of payment credits. Being issued from special accounts, this credit is automatically connected with the turnover rate of the working capital, which is not the case under present conditions.

Any exceeding of the planned amounts of working capital should be regarded as an extraordinary phenomenon, it is necessary to apply strict measures of credit influence to such enterprises.

Offsetting Shortages

Moscow FINANSY SSSR in Russian No 5, May 82 pp 28-34

[Article by I. P. Kitaygorodskiy and Ye. S. Podvinskaya: "Improve the Mechanism of Offsetting the Shortage of Internal Working Capital"]

[Text] One of the main prerequisites of the support of the cost accounting of enterprises and associations is the allotment to them of internal working capital, the availability of which should be regarded as the financial basis of the assurance of the cost accounting material responsibility of enterprises for the results of activity and for the meeting of contractual and financial obligations. A fine in accordance with its duties can be directed only at the working capital of the economic organ as a legal entity.

The allotment of internal working capital to an enterprise also makes it possible to increase its material interest in the improvement of the results of work, since the increase of working capital is accomplished primarily at the expense of the profit.

The provision of the enterprise with working capital depends not only on the amounts of internal resources placed at its disposal, but also on their preservation in the process of economic operations.

Unplanned losses and above-plan revenues, the nonfulfillment of the plan of the profit or the making of above-plan expenditures from the profit can be causes of the deviation of the actual amount of working capital from the standard amount. The listed factors are directly dependent on the activity of the enterprise itself, therefore, a surplus or shortage of internal working capital characterizes the degree of its preservation, for which the economic organ bears responsibility.

The preservation of working capital is one of the important conditions of the assurance of a stable financial state and the timeliness of payments to the budget, suppliers and the bank.

For 26 industrial ministries the shortage of internal working capital on 1 January 1981 came to 8 percent of the standard of working capital as against 5.1 percent on 1 January 1979.

The shortage of internal working capital comes to the highest amounts in the timber and wood processing industry (20.3 percent of the standard of internal working capital), power engineering (17.5 percent), the coal industry (11.9 percent), heavy machine building (9.4 percent) and power machine building (8.6 percent), machine building for animal husbandry and fodder production (9 percent).

The mechanism of offsetting the lost assets promotes the increase of the material liability of enterprises for the preservation of the working capital placed at its disposal.

The procedure of offsetting the shortage of internal working capital is specified by the decree of the USSR Council of Ministers of 22 August 1973, "On Some Steps on the Improvement of the Procedure of Lending and Settlements in the National Economy," in conformity with which the shortage of internal working capital, which forms as a result of the nonfulfillment of the plan of the profit and the making of above-plan expenditures which are financed from the profit, should be offset by enterprises over 3 years by means of their internal resources (the additional and above-plan profit and the decrease of the deductions from the profit for the economic stimulation funds).

The ministries and departments establish for subordinate enterprises assignments on the obtaining of an additional profit from the implementation of organizational and technical measures. The amount of this profit is reflected in the financial plans of the enterprises and in the references on the interrelations with the budget with respect to the payments from the profit, which are sent by the ministries to the financial organs at the location of the subordinate enterprises. In the case of the exceeding of the assignment on the additional profit the portion of the profit, which was obtained in excess of the assignment, is also allocated for making up the shortage of internal working capital. If the assignment on the obtaining of the additional profit is not fulfilled, up to 30 percent of the deductions from the profit for the economic stimulation funds are reduced by the amount of nonfulfillment and this portion of the profit is allocated for supplementing the working capital.

Gosbank can grant a loan for the period until the replacement of the lost internal working capital for the temporary offsetting of the shortage of working capital with its repayment by means of the above-indicated sources.

Bank credit is issued under the terms of a credit agreement, in which a list of the organizational and technical measures, which are aimed at the obtaining of an additional profit, the dates of their implementation and the anticipated economic impact are indicated.

It is necessary to point out that the prevailing procedure does not provide for the consideration by financial organs or institutions of the bank of the question of the guilt of the enterprise for the formation of a shortage of internal working capital.

In the past in conformity with the decree of the CPSU Central Committee and the USSR Council of Ministers of 4 October 1965 enterprises bore responsibility for making up the shortage of internal working capital only if it was allowed through their fault. Now the question of the guilt of an enterprise for the formation of a shortage of working capital is considered not by the monitoring financial and banking organs, but directly by the ministry, which should take into account the degree of guilt of the enterprise when establishing the assignment on the additional profit.

A study of the practice of the offsetting by enterprises of the shortage of internal working capital was organized by the USSR Ministry of Finance. For this purpose the financial organs of the RSFSR and the Ukrainian SSR checked 50 enterprises and associations of ferrous metallurgy, the construction materials industry, the timber, wood processing and pulp and paper industry, light, the textile, the food and the meat and dairy industries, which had during 1978-1980 a shortage of internal working capital.

The check showed that the main causes of the loss of a portion of the internal working capital are the nonfulfillment of the plan of the profit (68 percent) and above-plan expenditures which are financed from the profit (32 percent).

In those instances when enterprises elaborate the necessary measures, as a result of the fulfillment of which an additional profit is formed, the economic organs, as a rule, restore in good time the lost working capital. As a whole for the checked enterprises the additional and above-plan profit, as well as assets from the decrease of the contributions to the economic stimulation funds (7.8 million rubles) were allocated for offsetting the shortage of internal working capital (12.4 million rubles). Thus, 63.1 percent of the shortage of internal working capital, for the temporary offsetting of which credit was granted, was offset by means of internal sources of the enterprises and associations themselves.

Thus, bank credit in the amount of 659,000 rubles was granted in 1978 to the Vyshniy Volochek Cotton Combine, which had a shortage of internal working capital due to the nonfulfillment of the plan of the profit, for temporarily supplementing the working capital. The combine, after implementing a number of organizational and technical measures, obtained in 1979-1981 355,000 rubles of additional profit, which it allocated for the making up of the lost internal working capital. Moreover, the contributions to the economic stimulation funds were reduced by 304,000 rubles. By 1 July 1981 the shortage of internal working capital had been completely made up.

The Kamyshin Cotton Combine imeni A. N. Kosygin in May 1979 received under the conditions of payment by work 515,000 rubles of credit. In 1980 the assignment on the additional profit was not fulfilled, in connection with which the assets from the decrease of the economic stimulation funds (214,000 rubles) were allocated for offsetting the shortage of working capital. In 1981, having implemented organizational and technical measures, the combine obtained the opportunity by means of the

additional profit to make up ahead of time the entire shortage of internal working capital.

By means of the additional profit from the implementation of organizational and technical measures and the decrease of the contributions to the economic stimulation funds the Chernovitsa Furniture Factory, the Konstantinovskiy Glass Plant imeni Oktyabr'skoy revolyutsii, the Dnepropetrovsk Hardware Production Association, the Yartsevo Cotton Combine, the Krasnaya polyana Cotton Spinning Factory and the Bryansk Production Association of the Dairy Industry recovered the lost internal working capital and repaid the bank credit received for this purpose.

At the same time in the practice of the offsetting of the shortage of internal working capital by enterprises there are a number of significant shortcomings.

The plans of organizational and technical measures, which are drafted by economic organs, are the basis for the obtaining of an additional profit and the timely offsetting of the lost working capital. Their practicability and the timeliness of fulfillment should ensure the complete repayment of the bank credit which was granted for the temporary making up of the shortage of working capital.

Meanwhile the check showed that the plans of organizational and technical measures in many instances are of a formal nature, do not contain substantiations of economic efficiency and are not coordinated with the material and financial possibilities of their implementation and with the basic plan assignments.

Thus, the organizational and technical measures, which were elaborated by the Nakhodka City Dairy Plant of the RSFSR Ministry of the Meat and Dairy Industry, did not contain at all calculations of the economic efficiency. The Stroydetal' Plant of the Dnepropetrovsk Production Association of the Ukrainian SSR Ministry of Rural Construction should have carried out in 1980 the renovation of the shop for the production of items made from light-weight concretes, but in the plan of financing assets were not stipulated for this purpose. For making up the shortage of internal working capital the Odesstroyaterialy Production Association envisaged to adopt the method of the pneumatic transportation of bulk materials with the use of barrel pumps. However, the enterprise did not have the necessary equipment for this.

It is quite obvious that the plans of organizational and technical measures were drawn up by these enterprises only in order to obtain bank credit. Meanwhile the nonfulfillment of the elaborated measures also serves as a cause of the lack of real sources of offsetting the shortage of internal working capital.

At present when checking the plans of organizational and technical measures only the conformity of the total amount of the economic impact, which is indicated in the plan, to the amount of lost working capital is determined. This is obviously not enough. The organizational and technical measures should be studied more thoroughly from the point of view of the possibility of their implementation, as well as the correctness of the calculation of the economic efficiency.

In those instances when the elaborated measures are impracticable or their efficiency is inadequate, it is expedient to use the assets from the decrease of the economic stimulation funds as the planned source of the offsetting of the lost

working capital. The prevailing procedure provides for their decrease only in case of the nonfulfillment of the plan on the additional profit, which was set by the ministry.

When drawing up the assignments on the obtaining of an additional profit the ministry should establish in the financial plan of the enterprise a decrease of the contributions to the economic stimulation funds. If during the check the financial and banking organs ascertain the impracticability of individual elaborated measures, they can raise before the ministry the question of including in the plan assignments on the reduction of the funds as a source of the offsetting of the shortage of internal working capital.

The existing practice of issuing credit for the temporary supplementing of the working capital is such that credit is not granted, if the plan of organizational and technical measures does not ensure the complete offsetting of the shortage of working capital. A rejection has the result that the financial and banking organs abandon control over the timeliness and the completeness of the offsetting of the lost assets, while the enterprise experiences financial difficulties and has indebtedness to the budget, suppliers and the bank. The enterprises, which have concentrated considerable extraplan resources (temporarily idle assets of special funds and accounts payable, which are not taken into account in the stable liabilities and when extending credit), which enable them to maintain the stability of the financial state, are in a better position. In this case they do not at all bear responsibility for the preservation of internal working capital and might not decrease the contributions to the economic stimulation funds.

In this connection it is necessary to see to it that the enterprises, which permitted the formation of a shortage of internal working capital, would also bear responsibility for this in all instances, even in the absence of financial difficulties, and would elaborate measures aimed at the obtaining of an additional profit for offsetting the lost assets.

If the indicated measures and the decrease of the contributions to the economic stimulation funds are insufficient for the complete recovery of the lost working capital, the ministries should issue a guarantee of the timeliness of the repayment of the bank credit which was granted for the temporary making up of the shortage of internal working capital. Such a guarantee can be given by means of the reserve of the ministry for the provision of financial assistance or by means of centralized funds.

Another cause of the inefficiency of the system of offsetting the lost working capital consists in the fact that in the case of the nonfulfillment of the plan of organizational and technical measures and the failure to obtain an additional profit the decrease of the contributions to the economic stimulation funds in violation of the instructions is not made.

Thus, of the 50 checked enterprises only 15 allocated assets of the economic stimulation fund for supplementing the working capital, and 6 of them decreased the contributions to the funds by smaller amounts than established by the decree of the government of 22 August 1973. Instead of the 30-percent reduction of the funds, for example, the Zhdanov Metallurgical Plant imeni Il'ich allocated only 2.2 percent of the assets of the stimulation funds. The remainder of the shortage of

working capital was made up by means of assets of the superior organization. At the Karlamanskiy Sugar Plant for making up the shortage of internal working capital the stimulation funds were decreased by only 6 percent. The lacking amount was offset by means of assets of the superior organization. At the Saratov Dairy Combine the stimulation funds were reduced by only 4 percent and at the Balashirha Cotton Spinning Factory by 17.5 percent. The stimulation funds were reduced by 30 percent at only 3 of the 50 checked enterprises.

In all 30 enterprises did not reduce the contributions to the funds at all in connection with the fact that assets of superior organizations were given to them. Among them are the Ordzhonikidze Glass Plant, the Dnepropetrovsk Stroydetal' Plant, the Vladivostok Dairy Combine, the Krivoy Rog Cotton Spinning Factory and the Dnepropetrovsk Association of the Brewing and Nonalcoholic Beverage Industry.

It is necessary for superior organizations to give assets only after the reduction of the contributions to the economic stimulation funds. This is most expedient in those instances when the stimulation funds increase significantly.

In many instances the superior organizations exceed the rights granted to them: they permit the contributions to the stimulation funds not to be reduced, without allocating at the same time assets for making up the shortage. The main reason is the insufficiency of the economic stimulation funds, which for this reason it is inexpedient to cut. For this reason the Odesstroyaterialy Production Association, the Donetsk Azovzhelezbeton Production Association, the Dnepropetrovskiy Rayon Machinery and Repair Plant, the Kuznetsk Shoe Factory, the Barnaul Meat Combine, the Saratov Dairy Combine, the Tyumen City Dairy Plant and the Cheremkhovo Roofing Paper and Roofing Felt Plant did not decrease the contributions to the funds. The financial organs did not object to such actions of the superior organizations, which had relieved the enterprises of responsibility for the shortage of internal working capital, although in accordance with Instruction No 31/10 of the USSR Ministry of Finance and USSR Gosbank of 1 February 1974 the enterprises are obligated to decrease the contributions to the economic stimulation funds in case of the non-fulfillment of the assignment on the additional profit.

As a result of the enumerated shortcomings the actual structure of the sources of the repayment of the credit for supplementing the working capital differs sharply from the planned structure (Table 1).

Table 1

Sources of Repayment of Credit for Temporary Offsetting of Shortage of Working Capital for Checked Group of Enterprises

	According to plan	Actual	According to plan	Actual
	Thousands of rubles		Percent of total	
Total sources.	15722	12417	100	100
Including:				
additional profit.	15619	5175	99.4	41.7
above-plan profit.	--	600	--	4.8
reduction of contributions to stimulation funds.	--	2064	--	16.6
assets of superior organizations . . .	103	1078	0.6	8.7
internal working capital of enterprise	--	3500	--	28.2

The lack of sources for making up the shortage of internal working capital has the result that the credit is repaid by means of the available working capital of the enterprise, as a result of which upon expiration of the period of use of bank credit the shortage of internal working capital remains uncovered. For the checked group of enterprises 28 percent of the loans did not have sources of repayment.

During the check it was also established that in a number of instances the enterprises, for the purpose of being relieved of the responsibility for making up the shortage of internal working capital, avoid arranging bank credit on the terms of a credit agreement. Limits of the use of credits for temporarily making up the shortage of working capital are established by the ministry when reviewing the annual reports of the enterprises. This limit is reported by the ministry to the enterprises, but the latter do not get the credit. Thus, for example, the Donetsk Cotton Combine imeni XXV s'yezda KPSS did not assimilate the limit in the amount of 2.2 million rubles, the Yenakiyevo Metallurgical Plant--in the amount of 143,000 rubles. The Konstantinovskiy Glass Plant imeni Oktyabr'skoy revolyutsii received 116,000 rubles less than the established limit, the Novosibirsk Cotton Combine--165,000 rubles less, the Ordzhonikidze Glass Plant--200,000 rubles less.

As a whole for the 50 checked enterprises 3.3 million rubles less in loans were issued than had been planned, and 21 percent of the shortage of internal working capital remained uncovered.

The timeliness and completeness of the offsetting of the lost working capital also depends on whether the additional profit from the implementation of organizational and technical measures has been included in the financial plan (the balance of revenues and expenditures) of the enterprise.

As the materials of the check testify, the additional profit was not stipulated in the financial plans and documents on the interrelations with the budget of 11 enterprises and associations. Among them are such enterprises as the Zhdanov Metallurgical Plant imeni Il'ich, the Dnepropetrovsk Production Association of the Oils and Fats Industry, the Odesstroyaterialy Production Association, the Kursk Production Association of the Dairy Industry, the Groznyy Shoe Factory and others.

The lack in the financial plan of assignments on the obtaining of an additional profit has the result that the enterprises do not allocate the above-plan profit for offsetting the shortage of working capital and do not decrease the contributions to the economic stimulation funds in the absence of an additional profit.

It is necessary for financial organs at the beginning of each year to verify the presence in the financial plans and the documents on the interrelations with the budget of assignments on the offsetting of the shortage of working capital.

At present the financial organs are insufficiently interested in the fact that every enterprise, which has permitted the decrease of the amount of internal working capital to less than the established level, should have an assignment on the additional profit. Thus, if an economic organ, which has not received such an assignment from the ministry, derives an above-plan profit, a portion of it will be channeled into the revenue of the budget. If an economic organ receives an assignment on the additional profit, a significant portion of the above-plan profit will be specially allocated for offsetting the shortage of internal working capital and there will be no payment of the additional revenues into the budget.

Taking into account the great national economic importance of the timely offsetting by enterprises of the lost working capital, it is expedient to interest financial organs in carrying out the systematic monitoring of the progress of the fulfillment of the decree of the USSR Council of Ministers of 22 August 1973, "On Some Steps on the Improvement of the Procedure of Lending and Settlements in the National Economy."

In this connection, in our opinion, a procedure should be established, in case of which, when evaluating the work of financial organs and their right to the payment of a bonus, the use of the additional profit of the enterprise for making up the shortage of internal working capital would be taken into account.

It was also stated before that the ministries by their actions at times promote the freeing of enterprises from responsibility for offsetting the shortage of internal working capital. This concerns the financial plans, the decrease of the contributions to the funds and the assimilation of the limits of lending.

The widespread practice of the centralized granting to ministries of loans for the temporary making up of the shortage makes it possible to shield the enterprises from financial and bank control and to relieve them of responsibility for the preservation of the assets allocated to them. The credits granted centrally exceed by 3.5-fold the amount of the credits to enterprises, which have been issued on the conditions of the drafting of plans of organizational and technical measures on the obtaining of an additional profit (Table 2)

Table 2

Credits of Banks for Temporarily Making Up the Shortage of Internal Working Capital

	Total	Centrally	To enter- prises	Centrally	To enter- prises
	millions of rubles			percent of total amount of credits	
Total for 26 ministries. . .	1634	1273	361	77.9	22.1
Including:					
USSR Ministry of Power and Electrification.	252	203	49	80.4	19.6
USSR Ministry of Ferrous Metallurgy	227	215	12	94.8	5.2
USSR Ministry of Nonferrous Metallurgy	105	97	8	92.3	7.7
USSR Ministry of Timber, Pulp and Paper and Wood Processing Industry	241	162	79	67.3	32.7
Ministry of Heavy and Trans- port Machine Building. . . .	91	69	22	75.4	24.6
Ministry of Tractor and Agricultural Machine Building	85	62	23	73.5	26.5

The proportion of the credits being issued centrally is increasing all the time, superseding the loans being issued on the terms of payment by work. Thus, during 1978 66 percent of the loans were issued centrally, while during 1980 78 percent were.

In the case of the centralized procedure of lending the loan indebtedness is attributed only to the ministry, while it is assigned to enterprises, as a rule, in the form of outright financial assistance. Accordingly the sources of the offsetting of the shortage of internal working capital are not planned, the real periods of this offsetting are absent. In this connection the ministries have repeatedly requested the deferment of the repayment of loans, and then the earmarking of budget allocations for making up the lost working capital.

Thus, six loans for making up the shortage of working capital were issued from July 1978 to July 1980 to the Ministry of Tractor and Agricultural Machine Building. Of them the loans issued in 1978 were prolonged six times, those issued in 1979--four times and those issued in 1980--four times. On 18 December 1980 86 percent of the indebtedness was repaid by means of assets of the budget, while the remainder was deferred again.

The practice of the centralized granting of credits eliminates the responsibility of the enterprise for the loss of a portion of the internal working capital and weakens bank control and influence on poorly operating enterprises. In this connection, in our opinion, it is necessary to limit as much as possible the cases of the centralized granting of the indicated credits to ministries.

The credits for the temporary making up of the shortage of internal working capital should be granted only in a decentralized manner with the full responsibility of the enterprises for the timeliness of the finding of the resources necessary for the repayment of these credits.

The financial, as well as banking organs should set up in this case the effective monitoring of the elaboration of organizational and technical measures on the obtaining of an additional profit and in the case of the nonfulfillment of the plan of these measures should decrease the contributions to the economic stimulation funds (by up to 30 percent).

The problems of the preservation of internal working capital and the making up of its shortage have acquired particular urgency in connection with the elaboration and approval for enterprises and organizations of new, economically sound standards. In conformity with the new standards considerable financial resources have been allocated to enterprises for the increase of the working capital, which dictates the need not only to make up the already existing shortage of working capital, but also to ensure the preservation of the newly allocated working capital.

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INVESTMENT, PRICES, BUDGET AND FINANCE

BETTER MANAGEMENT OF FIXED, WORKING CAPITAL URGED

Moscow FINANSY SSSR in Russian No 4, Apr 82 pp 31-34

[Article by Candidate of Economic Sciences V. D. Vlasova: "Some Questions of the Improvement of the Management of Assets Which Are Being Advanced"]

[Text] The problem of improving the use of assets which are being advanced is covered extensively in economic literature. However, many questions, the solution of which is called for by the decree of the CPSU Central Committee and the USSR Council of Ministers "On Improving Planning and Strengthening the Influence of the Economic Mechanism on Increasing Production Efficiency and Work Quality," still remain in this area.

Let us attempt to take a look at this problem from the initial stage of management--the formation of the structure of the assets being advanced. Absolute changes of the individual items lead not only to a relative change of their proportion in the total amount, which changes the structure of the assets as a whole, but also to absolute changes of the total amount of assets, which influences the change of the indicator of the effectiveness of their use. Consequently, the implementation of some measures or others, on the one hand, leads to a change of the value of the indicator of the effectiveness of the use of the assets being advanced and, on the other, changes their structure. What we have is a relationship between the structure of the assets and the effectiveness of their use. This circumstance affords a new means of improving the use of assets--the optimization of their structure from the point of view of the values of the indicator of the effectiveness of their use. Indeed, the better structure of the assets of a given cost accounting unit should also correspond to the better indicator of the effectiveness of the use of the assets. The determination of the optimum structure would make it possible to elaborate measures on the purposeful improvement of the use of material and financial resources.

It is possible to evaluate such an interrelationship quantitatively by the mathematical processing of statistical data, which will make it possible to pose and accomplish the task of the optimization of the structure of the assets being advanced of associations and enterprises under any conditions. The existence of such a structure of the assets does not give rise to doubts.

The ratio between the individual items of the working capital, which corresponds to the optimum ratio, makes it possible to achieve the speeding up of the movement of assets and a decrease of the need for resources. Hence, the optimization of

the structure of working capital is directly connected with the increase of the effectiveness of its use. The achievement of the optimum structure is one of the important tasks of the management of working capital.

It is obvious that the practical use of the results of the proposed method is feasible only if the possibility exists for associations and enterprises to actively influence the formation of the structure of the assets. The extension of the rights of cost accounting units as a result of the increase of the effectiveness of economic levers and stimuli under the conditions of the further improvement of the economic mechanism ensures such a possibility.

Let us examine the method of structural modeling, on which the above-indicated approach to the solution of the problem of improving the use of the assets being advanced is based, on the basis of the example of the improvement of the use of the working capital of one cost accounting unit of management. The proposed method makes it possible to elaborate and substantiate recommendations on the increase of the efficiency of the use of the material and financial resources of enterprises and associations by the purposeful change of their structure.

At the first stage it is necessary to construct a model of the optimum development of the structure of the assets being studied for the selected group of similar enterprises. Such a model shows the dependence of the changes of the structure of the assets being studied on the values of the chosen indicator of the effectiveness of their use. Since the proportions of the items of the working capital are established in the case of the change of the chosen indicator of effectiveness from the worst to the best, the obtained trend of the changes can be called the model of the optimum development of the structure of the assets being studied.

The model is constructed on the basis of the statistical data on the development of the structure of the assets being studied subject to the changes of the chosen indicator of the effectiveness of their use for the group of enterprises being studied over a specific interval of time. The statistical material is processed by the well-known methods of correlation and regression analysis. The model of the optimum development is obtained as a generalization of the trends which are reflected in the development of the structure of the assets being studied of each of the cost accounting units of the selected group. Let us note that the accuracy and correctness of the model depend on the completeness and accuracy of the statistical material which serves as the basis for the calculations.

At the second stage a qualitative and quantitative analysis of the differences between the development of the structure of the assets being studied of a specific enterprise and the changes of the structure in the model of their optimum development is made. In this case the degree of difference of the structure, which has actually formed at the enterprise and in the model, is estimated: the items, the change of which is most expedient from the point of view of the improvement of the effectiveness of the use of the assets, are identified; the nature of the changes of the individual items is determined, the degree of such a change is evaluated quantitatively.

At the third stage sound recommendations on the management of the structure of the working capital at each of the enterprises on the basis of the identified differences between the optimum and actual development of the structure of the assets

being studied are elaborated. These recommendations serve as the basis of specific measures on the improvement of the use of the assets and make it possible to plan the implementation of these measures and to calculate the impact in advance.

Let us illustrate the elaborated method using the example of a transportation enterprise. First a model of the optimum development of the structure of the assets being studied for the chosen group of similar enterprises is constructed on the basis of the statistical data which characterize the structure of the working capital of associations and enterprises during a specific period of time.

Table 1

No	Name of item	1975	1976	1977	1978	1979	1980
1	Materials.	0.12	0.11	0.14	0.14	0.14	0.14
2	Fuel	0.19	0.18	0.19	0.20	0.20	0.16
3	Packaging.	0.006	0.01	0.01	0.01	0.01	0.02
4	Spare parts.	0.25	0.30	0.27	0.25	0.24	0.27
5	Inexpensive and rapidly wearing items.	0.11	0.13	0.12	0.12	0.09	0.10
6	Expenses of future periods	0.004	0.002	0.001	0.001	0.002	0.001
7	Monetary assets.	0.04	0.01	0.03	0.02	0.02	0.01
8	Shipped goods.	0.09	0.08	0.08	0.09	0.09	0.11
9	Accounts receivable.	0.02	0.02	0.02	0.02	0.02	0.03

During the period in question both the absolute amounts of the working capital by items and its relative amounts, in other words, the structure of the working capital change. At the same time as a result of the consistent implementation of measures aimed at the improvement of the use of material resources (the sale of superfluous and unnecessary physical assets, the tightening up of the monitoring of the state of stocks and their movement, the tightening up of settlement and payment discipline) the use of the assets improves, for example, the duration of one turnover, the number of turnovers during a specific period of time and others decrease.

Table 2
(in days)

	1975	1976	1977	1978	1979	1980
Duration of one turnover of working capital. .	60.0	63.6	69.0	74.6	71.8	66.6

As a rule, during a specific period of time both the structure of the working capital and the indicators of the effectiveness of its use change. Hence, the initial hypothesis about the interconnection of the changes of the effectiveness of the use of working capital and its structure finds confirmation.

The dependences of the changes of the proportions of the individual components of the working capital and the indicators of their use are constructed on the basis of the obtained statistical data. In the aggregate such dependences constitute the model of the development of the structure of the working capital for the group of enterprises being studied. If the change of the indicators of the use of the working capital occurs in the direction of an improvement, such a model can be considered to be the model of the optimum development of the structure of the working

capital. Since the model is constructed on the basis of the statistical data for a number of similar enterprises, the laws of the change of the structure of the working capital are of an objective nature.

The model can be described analytically, that is, by a set of regression equations which reflect the interrelationship between the changes of the structure of the working capital and the indicator of its use; a graphic form, which in individual instances is clear, can be given to the model. The construction of the regression equations is carried out by means of the well-known system of correlation and regression analysis. Here the correlation ratios, which show the closeness of the connection between the parameters being studied, are calculated and the form and coefficients of the regression equations, which reflect the laws of the change of the proportion of each item with the improvement of the indicator of the use of the working capital, are found. Thus, the form of the regression equation for the items of the working capital can be chosen to be the following:

$$K_i = a \pm bc^B,$$

where K_i is the proportion of item i of the working capital;

a , b and c are the parameters of the regression equations (different, but constant values are used for the different items);

B is the duration of one turnover of the capital in days.

The basic results of the modeling of the optimum development of the structure of the working capital for the group of similar transportation enterprises are cited in Table 3.

Table 3

No of items	Name of item	Nature of change of proportion	Regression equation	Closeness of connection
1	Fuel	increases	$K_1 = 0.220 - 0.017 \cdot 1.024^B$	0.93
2	Packaging	decreases	$K_2 = 0.040 + 0.004 \cdot 1.052^B$	0.99
3	Materials	constant	$K_3 = 0.004$	0.01
4	Spare parts	increases	$K_4 = 0.320 - 0.003 \cdot 1.046^B$	0.96
5	Inexpensive and rapidly wearing items	increases	$K_5 = 0.170 - 0.009 \cdot 1.028^B$	1.00
6	Expenses of future periods	constant	$K_6 = 0.005$	0.01
7	Monetary assets	decreases	$K_7 = 0.015 + 0.011 \cdot 1.006^B$	0.57
8	Shipped goods	decreases	$K_8 = 0.040 + 0.012 \cdot 1.012^B$	0.60
9	Accounts receivable	constant	$K_9 = 0.015$	0.02

The analysis of the model of the optimum development of the structure of working capital shows the following:

a) the closeness of the connection between the indicators being studied changes over a wide range--from values close to 1 to values close to 0;

b) the items of the working capital during the period in question change differently. We will call the items, the proportion of which decreases with an increase of the value of the effectiveness of the use of the working capital, "conditionally decreasing."

There are items, the proportion of which in the amount of working capital remains constant or fluctuates negligibly with respect to some value in the case of the improvement of its use. In this case there is no pronounced correlation connection between the indicator of the effectiveness of the use of the working capital and the proportion of the item in question and the value of the proportion of the latter remains constant in the case of a change of the indicator of effectiveness. We will group these items with the "conditionally constant" ones.

Finally, there are such items, the proportion of which in the amount of working capital reveals a tendency to increase with an increase of the indicators of the effectiveness of their use. These are what are called "conditionally increasing" items;

c) the existence of the three basic groups of items attests that the improvement of the indicator of the effectiveness of their use (in this case, the decrease of its absolute value) requires a completely different change of the component items of the working capital. Thus, a differentiated approach to the elaboration of recommendations on the change of one item or another is needed;

d) the presence of the group of "conditionally increasing" items dictates the need for the relative increase of the expenditures on these items for the improvement of the indicator of the effectiveness of the use of the working capital. Consequently, some recommendations on the decrease of all the items of the working capital seem completely unfounded. Certain items should objectively increase with the improvement of the use of the working capital.

Among such items there is, for example, "Materials for the Operation, Maintenance and Repair of the Transportation Fleet" (see Table 3). The increase of this item stems from objective causes. Thus, the increase of the amount of work and, hence, the enlargement of the fleet of means of transportation, undoubtedly, should lead to an absolute increase of the expenditures on their maintenance and repair. The intensification of the use of the available capital also leads to this. The noted phenomena objectively exist and, moreover, determine the direction of the development of transportation.

The increase of the effectiveness of the use of working capital involves a decrease of its amount. Consequently, an absolute increase of this item is possible only in case of its relative increase in the total amount of working capital. The existence of a correlation ratio for the indicators being studied with respect to the item "Materials," which is equal to 0.93 (see Table 3), indicates the existence of a close connection between them.

Thus, the model of the optimum development of the structure of working capital objectively confirms the need for the posing and solution of the problem of the management of the structure of working capital, that is, for such a differentiated change of the proportions of the items, which would conform to the improvement of their use. By means of the constructed model of optimum development the

opportunity arises to evaluate the importance of one specific measure or another of the improvement of the use of working capital, to ascertain the objective conditions of its implementation and to plan such implementation.

As a rule, the actually formed structure of the working capital of a specific enterprise and the structure reflected in the model of optimum development do not coincide. In such a case the model serves as the basis for the making of an analysis of this difference and for the elaboration of specific recommendations on the management of the structure of the working capital for the purposes of increasing the effectiveness of its use.

The qualitative and quantitative evaluation of the structure of the working capital of a specific enterprise makes it possible: to estimate the degree of difference of the structure of the working capital of the enterprise from its value in the model of optimum development; to identify the items, the change of which is most expedient from the point of view of the increase of the effectiveness of the use of the working capital; to determine the necessary nature of the change of the distinguished items; to estimate quantitatively the degree of change of the distinguished items.

Thus, the comparison of the actually formed structure of the working capital of a specific enterprise with the structure in the model of optimum development, which correspond to the same value of the indicator of its use, led to the following results, which are presented in Table 4. The proportions of a number of items of the working capital of this enterprise (K_i) and the proportions obtained in the model of optimum development (K_{i0}), which correspond to a specific value of the indicator of the effectiveness of the use of the capital, are given in the table. The quantitative differences between the values of K_i and K_{i0} for each item (Δ_i) are also calculated. The sign (-) shows that the proportion of the item in the real structure is less than in the optimum structure.

Table 4

No	Name of item	K_i	K_{i0}	Δ_i
1	Materials.	0.120	0.120	--
2	Fuel	0.188	0.152	0.036
3	Packaging.	0.006	0.004	0.002
4	Spare parts.	0.247	0.274	-0.027
5	Inexpensive and rapidly wearing items.	0.109	0.122	-0.013
6	Expenses of future periods	0.004	0.005	-0.001
7	Monetary assets.	0.037	0.030	0.007
8	Shipped goods.	0.088	0.043	0.045
9	Accounts receivable.	0.017	0.015	0.002

The level of the proportions in the real structure and in the model of optimum development is nearly identical. Only the proportions of the expenditures on fuel and the shipped goods are significantly different; the deviations of the proportions of the expenditures on spare parts and inexpensive and rapidly wearing items and of the monetary assets are less significant.

The changes with respect to these items also constitute the main reserves of the decrease of the total amount of working capital. Such an analysis makes it possible to outline the basic directions of the changes in the structure of the working capital for the purpose of increasing the effectiveness of its use, as well as to determine the quantitative limits of the change of the proportions of the items subject to the improvement being planned.

In accordance with the data of Table 4 it is possible to estimate the quantitative differences between the real values of the proportions of the individual types of working capital and their values according to the model of optimum development. Thus, the calculation of the necessary changes showed that the capital in shipped goods (0.045) and the expenditures on fuel (0.036) require the greatest decrease. At the same time it is necessary to increase the investments of capital in spare parts (by 0.027) and in inexpensive and rapidly wearing items, tools and implements (by 0.013).

Recommendations on the management of the structure of working capital and, consequently, on the improvement of its use as a whole are being elaborated on the basis of the estimates examined above. Such recommendations consist in indications concerning which items of the working capital should be changed and by how much for bringing the real structure of the capital closer to the optimum structure under existing conditions. The measures, which the enterprise needs to implement, are formulated on the basis of such recommendations.

As a result the elaboration of the model of the optimum development of the structure of the working capital makes it possible to plan soundly the structural changes which correspond to the increase of the effectiveness of its use. The most significant advantage of the proposed method consists in this.

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MODEL OF BALANCE OF NATIONAL ECONOMY

Moscow IZVESTIYA AKADEMII NAUK SSSR: SERIYA EKONOMICHESKAYA in Russian No 4,
Jul-Aug 82 pp 55-68

[Article by V. D. Belkin: "Contemporary Problems of the Balance of the USSR National Economy"]

[Text] Questions of the more extensive use of the balance of the USSR national economy in the planning and management of the socialist economy and the means of further improving its arrangement in conformity with the new tasks of economic and social development are examined. A material financial model for multivariate calculations and the analysis of the balance of the national economy is proposed.

1. On the Role of the Balance of the National Economy at the Present Stage of USSR Economic and Social Development

The balance of the national economy is a system of the most general economic indicators which are interconnected in the corresponding tables. It is a kind of quantitative model, which characterizes the interrelations of socialist production and is of exceptionally great importance for the planned management of its development. Precisely for this reason for more than 60 years now the problems of the balance of the USSR national economy have been at the center of attention of Soviet economic science, planning and statistical practice. The achieved level of economic knowledge in this area and the use of modern mathematical economics methods and models and computer hardware are increasing substantially the possibilities of the further improvement of its elaboration and use for the purposes of the best assurance of the planned nature and proportionality of the development of the national economy.

In order to fully realize these possibilities, it is necessary first of all to solve the following basic problems: to determine the place and role of the balance of the national economy of the country at the stage of mature socialism; to improve its arrangement, on the basis of the ripe tasks of economic and social development; to work out a mathematical economics model for its compilation.

At the present stage of development of the USSR as a unified national economic complex the role of the balance of the national economy should, in our opinion, be increased substantially, while its use in the planning and management of social

reproduction should be considerably expanded. This stems objectively from the ripe tasks of the building of communism and the adoption by the party and government of most important decisions on the key problems of planning work: the assurance of the reliable balance and optimum proportionality of economic development and the orientation of planning toward the end national economic results.

In the decree of the CPSU Central Committee "On the Further Improvement of the Economic Mechanism and the Tasks of Party and State Organs," which was adopted on 12 July 1979, it is indicated that the assurance of the balance of the plans is of paramount importance. This was discussed at the 26th CPSU Congress. L. I. Brezhnev especially emphasized that the plan "should be practicable, balanced" [4, p 50].

As is known, the efficient, effective use of material and manpower resources is one of the most important aspects and prerequisites of the intensification of production. And this simultaneously implies the adoption of a comprehensive approach to planning and the assurance of the scientific soundness and balance of the plans. Under the conditions of cost accounting and commodity-money relations the proportionality and completeness of the use of resources require that they be brought closely in line with the amount and structure of the effective demand of the consuming enterprises.

The further improvement of the balance of the national economy is acquiring greater and greater importance for the solution of these problems. The orientation of planning toward the end national economic results also requires such improvement.

"Managerial and first of all planning activity," L. I. Brezhnev pointed out, "should be aimed at the end national economic results.... Such an approach is especially urgent as the economy grows and becomes more complicated, when these results depend more and more on a large number of intermediate units, on the complicated system of intrasectorial and intersectorial ties. Under such conditions in pursuit of the intermediate results, which in themselves do not settle the matter, it is easy to miss the main thing--the end results. And on the other hand, without having devoted proper attention to some intermediate units, it is possible to undermine the final, total impact of great efforts and investments" [3].

The leading growth of the end national economic results was named at the 26th CPSU Congress as a characteristic feature of the 11th Five-Year Plan [4].

As is known, the intersectorial balance can serve as an effective tool of the determination of the production volumes in all the intermediate units, which are necessary for the production of the planned final product. The corresponding calculations on its basis are made according to the formula: $\bar{X} = [E - A]^{-1} \bar{Y}$, where \bar{X} is the vector of the gross output; A is the matrix of the coefficients of the material expenditures; \bar{Y} is the vector of the final product.

The final product by its economic nature is a category which is close, but not identical to the end national economic results, which are characterized by the degree of satisfaction of personal and social needs.

Under the conditions of commodity-money relations the personal and social needs which are to be satisfied are governed by the income and savings, which form the effective demand. Consequently, for the drafting of a plan aimed at the end

results the intersectorial balance, although a necessary tool, is still an inadequate one. The balance of the national economy, which characterizes in detail the amount and structure of the effective demand and, thus, the formation and use of income, is needed here. This will make it possible to draft the plan on the basis of the effective demand.

Planning, which is based on the effective demand, which is represented in the form of the orders of trade, is presently called for in light industry. However, the indicated principle is not being used in the planning of the production of raw materials and materials for light industry, which is bringing to naught its effect at the final stage of production. Only the consistent implementation of the principle of planning, which is based on the effective demand, in all the links of the vertical line of production, can solve the problem. As Comrade L. I. Brezhnev indicated at the October (1980) CPSU Central Committee Plenum, "...one will not correct by individual partial solutions the state of affairs in group B. We must develop the production of consumer goods on the basis of a well-considered, long-term program which is capable of uniting the efforts of all the sectors on which this depends.... The system of the planning and financing of these sectors should be improved, having made them strictly dependent on trade, on the consumer" [1].

The consumer can properly influence production only when the effective demand is balanced with the material backing. In this case what is meant is the demand of not only the population, but also state and public organizations, enterprises, associations and kolkhozes.

It is quite obvious that without such a balance, under conditions when demand exceeds supply, the influence of the consumer is minimal, the producer, when selling any commodity, as a whole dominates on the market. As a result one of the most important problems of the present development of our economy--the problem of quality--cannot be solved satisfactorily.

In the Procedural Instructions on the Drafting of State Plans of USSR Economic and Social Development the functions of the planning balance of the national economy are defined in the following manner: "The balance of the national economy is drawn up at the preliminary stage of planning for the determination of the rates, proportions and possible volumes of production, resources for production and nonproduction consumption, the limits of capital investments and other general economic indicators, which are necessary for the further elaboration and clarification of the indicators at the sectorial level.

"...At the stage of the elaboration of the drafts of the plans of economic and social development the balance of the national economy is used for checking the conformity of all the sections of the plan to the basic directions and optimum proportions for the period being planned, including the conformity of the sectorial indicators of production to the most important national economic proportions of reproduction" [6].

For all the importance of the named functions such a definition of the role of the balance of the national economy under present conditions is already inadequate. The time has come to give the balance of the national economy the status of an officially approved planning document. Academician S. G. Strumilin at one time wrote: "In planning theory the task of constructing the entire national economic

plan in the form of a unified national economic balance, which is coordinated in all its elements, was outlined long ago... the entire methodology of planning in practice is developing in this direction" [9].

The state plan of the economic and social development of the country is a directive assignment for socialist enterprises, institutions and organizations. It is of a clearly expressed address nature and has a departmental breakdown. But this does not mean that all its sections and levels should be addressed. As for the balance of the national economy, in it socialist reproduction is characterized with a breakdown by its basic spheres and subdivisions. Hence it should acquire the status of a plan of the top level, which is addressed first of all to the national economy as a whole.

In economic theory and practice the balance of the national economy is usually regarded only as a tool of centralized planning. However, at present it is acquiring more extensive importance in the management of the socialist economy. It is a question of also using the balance of the national economy in the formation of the cost accounting mechanism.

The problem of the relationship and interconnection of centralized planning and the cost accounting mechanism is being covered in our political economic literature on a very abstract level. In some works this problem in general has been replaced by another--the relationship of the plan and the market. In economic studies of an applied nature the questions of centralized planning and the cost accounting mechanism are examined, as a rule, separately, which is due, apparently, to a certain independence of them.

Indeed, at the level of enterprises, associations and even entire sectors the plan and the cost accounting mechanism far from always have a coordinated, identically oriented influence on production. The economic levers are frequently indifferent with respect to the plan assignments. Often the effect of both becomes in general differently oriented. The clash, when enterprises, guided by their own immediate economic interests, strive to expand the production of goods of an assortment which is "profitable" for them often to the detriment of the plan assignments, is well known. In economic literature with respect to cases of this type the priority of the plan and the necessity of the unconditional fulfillment of the plan assignments are also emphasized, even when this does not conform to the immediate interests of enterprises. And indeed, such a decision in such instances is the only possible one.

But is it legitimate in general to oppose immediate economic interests to the plan, to ascribe all but a fatal nature to the contradictions between them? In our opinion, the best means of ensuring the priority of the plan consists in establishing the standards, which determine the economic interests, on the basis of the plan. It is a question, of course, not of the plans of enterprises and associations, since economic levers, such as the rates of the fee for capital and rent payments, the interest for credit and so forth, are of a general economic, more rarely a sectorial and group nature. Therefore they should be determined primarily on the basis of the plan of the top level, that is, the balance of the national economy.

The standards of efficiency, the ratios between the wage, the profit and the turnover tax within the price, income tax rates and the amounts of material stimulation funds directly depend on the proportions between the necessary and surplus product, consumption and accumulation, the production and nonproduction sphere, which can be characterized by the balance of the national economy.

In recent years the problem of drafting stepped-up plans of enterprises and associations has acquired particular urgency. As a result of the complication of the economy and production technology it has become difficult to draft and send down "from above" stepped-up and at the same time practicable plans. No one can know better than the enterprises and associations themselves all their reserves and potentials. However, the evaluation of economic activity according to the degree of fulfillment of the plan does not encourage enterprises to draft stepped-up plans, rather to the contrary. They strive to get understated plan assignments. Hence the interest, which is being aroused by the proposal to evaluate the activity of enterprises by comparing their results not with the plan assignments approved for them, but with the national economic standards, for example, to compare the achieved profitability with the standard profitability, is understandable. Such an approach to the evaluation of the work of enterprises would stimulate the drafting of precisely stepped-up plans, which ensure the achievement of these standards. At the same time it predetermines the greater demands on the elaboration of economic standards, on their soundness and accuracy and, thus, on the balance of the national economy.

2. The Improvement of the Arrangement of the Balance of the National Economy

For the solution of the above-noted and several other problems of centralized planning and the economic mechanism as a whole the balance of the national economy needs substantial improvement. Its arrangement, which is presently being used, was formed for the most part during the period of the prewar and first postwar five-year plans. Prominent Soviet economist V. A. Sobol', who during that period headed the Department of the Balance of the National Economy of the USSR Central Statistical Administration, wrote: "With the change of the understanding of the nature of reproduction the arrangement and basic indicators of the balance of the national economy changed. The arrangement of the balance of the national economy expresses our understanding of the essence of socialist reproduction. Therefore there is no and can be no absolute arrangement of the balance of the national economy, such an arrangement which would be constant for centuries" [10].

The changes in the very process of reproduction and the emergence of new tasks of economic and social development also require the improvement of the arrangement of the balance of the national economy. Here, of course, it is a question of quite major problems, the solution of which to one extent or another affects the entire national economic complex of the country as a whole.

The balance of the national economy is called upon to reflect sufficiently completely and accurately the new, quantitatively and qualitatively higher level of reproduction, which is inherent in mature socialism. Meanwhile the arrangement of the balance of the national economy, which is being used, does not completely meet these requirements. During the past period the intersectorial balance became an important supplement of it. However, given all its unquestionable merits it is, in essence, nothing other than a comprehensive, detailed balance of the national product. Constructed on the same economic principles, the intersectorial balance

did not eliminate all the shortcomings which are inherent in the prevailing arrangement of the balance of the national economy.

In the balance of the USSR national economy, for example, construction, as well as transportation and other sectors of the infrastructure and the nonproduction sphere are not represented in enough detail, foreign economic and financial relations did not find proper reflection.

In spite of the exceptionally important role of construction in the development of the socialist economy, in the balance of the national economy it holds a very modest place. One of the reasons of such a situation consists in the fact that the investment cycle is of a long-term nature, while the balances of the national economy are drawn up for a year. Therefore construction can be reflected with sufficient completeness only in the case of the compilation of long-range balances for a number of years. Such an approach ensues from the new procedure of planning capital construction, which was stipulated by the July (1979) decree of the CPSU Central Committee and the USSR Council of Ministers. In the indicated decree it is stated: "To approve beginning with the 11th Five-Year Plan for USSR ministries and departments and the councils of ministers of the union republics a stable five-year plan of capital construction (with a breakdown of the assignments by years), which is balanced with resources of materials, technological and power equipment, with manpower and financial resources, as well as with the capacities of construction and installation organizations" [5].

In the intersectorial balance construction is described by a single line item. Meanwhile the construction of production enterprises and the building of projects of the nonproduction sphere have a different socioeconomic purpose. In the former case it is a question of the increase of the economic potential of the country, in the latter it is a question of a direct contribution to the increase of the well-being of the people.

At present the further development of social production depends to a greater and greater extent on the infrastructure. Railroads and highways, pipelines, electric power transmission lines and communications channels unite in a common production rhythm the work of enterprises, construction projects, kolkhozes and sovkhoses and ensure the functioning of the economy as a unified national economic complex. The development of the sectorial infrastructure for the production, transportation, storage and delivery to the consumer of the products of agriculture is of especially great importance.

The national economy incurs substantial losses from the inadequate development of the infrastructure. Therefore under present conditions it has a greater influence on the balance of the economy, in our opinion, than the directly producing sectors. This becomes obvious if we compare two versions of the development of the national economy with a final product which is equal in volume and structure and is used for consumption and accumulation. In the first version the level of development of the sectors of the infrastructure is quite high, the losses do not exceed the standard losses, and therefore the volume of the final product is limited by the capacity of the producing sectors. In the second version the capacity of the producing sectors is greater than in the first version. However, as a result of the inadequate development of the infrastructure the losses here are substantially greater than the standard losses. As a result the final product, which

is used for consumption and accumulation, in its volume in the first version is close to the produced product, while in the second it is considerably less than the produced product. It is possible to assert that the first version is preferable for the balance of the national economy. It is not only that more, in many ways irreplaceable primary resources are consumed for an equal volume of the final product in the second version, but also that in the case of the production of a product, which was then lost during transportation and storage, wages are paid and money, which remains in circulation without the appropriate material backing, is spent. The commodity-money balance thereby decreases.

Therefore the considerable increase envisaged by the plan of the 11th Five-Year Plan of the capital investments in warehousing services, which ensure the preservation of the produced output, will be of very substantial importance for increasing the balance. Special attention in this plan is devoted to the development of the largest sector of the infrastructure--transportation. In conformity with the decisions of the 26th CPSU Congress at present a long-range comprehensive program of the development of the unified transportation system of the country is being elaborated, which provides for the complete meeting of the rational needs of the national economy and the population for transportation on the basis of the optimum coordination of all types of transport. The rapid increase of the traffic volumes, which is due to the greater and greater distance of the main deposits of raw material resources from the inhabited regions of the country, and the increase of transportation costs, which is connected with this, will find their reflection in the comprehensive program.

Meanwhile in the balance of the national economy, including the intersectorial balance, the transportation expenditures for the production of the output of different sectors are not distinguished. The intersectorial balances are drawn up in the prices of the consumer, which include the transportation costs. Therefore the expenditures of the output of different sectors on production are shown in the total with the expenditures on the delivery of this output.

In the intersectorial balance, both the planning and report balance, transportation is present in an extremely aggregated form. As for freight transportation, it is shown by two line items--"transport as a whole" and within it "rail transport." Passenger transport in the intersectorial report balance is characterized by a single column, while in the planning balance it is lumped together with the indicators of other sectors of the service sphere.

The methodology of representing the nonproduction sphere in the balance of the national economy, in our opinion, needs substantial improvement. At present more than a fourth of all the people working in the national economy are employed in this sphere as compared with 12 percent in 1940 and 14 percent in 1950 [7, 8, p 356]. The sectors of the nonproduction sphere act, on the one hand, as a large consumer of products and, on the other, are themselves playing a greater and greater role in meeting social needs. Moreover, the services being rendered are becoming an object of increased demand. The volume of services for a fee during the past four five-year plans has been increasing at a leading rate as compared with the volume of the commodity turnover.

Therefore the characterization of the nonproduction sphere in the balance of the national economy should be expanded substantially. In particular, in the

intersectorial balance the nonproduction sectors should, in our opinion, be represented just as comprehensively as the sectors of physical production.

Foreign economic relations are represented in the balance of the national economy with even less completeness. In the Procedural Instructions on the Drafting of State Plans of USSR Economic and Social Development the foreign trade balance is examined separately from the balance of the national economy, which, apparently, is also explained by the relatively small role of foreign trade in the still recent past.

Indeed, the ratio of imports to the national income of our country, which is used for consumption and accumulation, in 1965 amounted to (calculated in foreign trade prices) 3.7 percent. However, by 1980 it had increased 2.7-fold and had reached 9.9 percent [8, p 380]. If the ratio of imports to the national economy were calculated, as is assumed, on the basis of domestic prices, it would come to approximately 16 percent. In recent years about 10 percent of the revenues of the state budget have been provided by means of foreign trade [11].

It is quite obvious that without a detailed reflection of foreign trade in the balance of the national economy it is impossible to get a proper idea of the ratio of subdivisions I and II of social production. And without this it is also impossible to give a scientific substantiation of the growth rate of these two subdivisions for the future, which meets the requirements of the basic economic law of socialism. The ratio of subdivisions I and II in the production of the gross national product and in its use should be clearly distinguished. Industrial consumer goods and foodstuffs, as well as the raw materials necessary for their production make up 38.5 percent of the total volume of imports and only 6.3 percent of the total volume of exports of the Soviet Union [8, p 540].¹ Consequently, a portion of the means of production, which have been produced in our country, by means of foreign trade is being exchanged for consumer items, which substantially increases the possibilities for meeting the needs of the Soviet people.

The importation of the latest equipment and the purchase of licenses are of considerable importance for the acceleration of scientific and technical progress. The expansion of exports is also having a positive influence on domestic production. The assurance of the competitive ability of the exported products on the world market is a significant stimulus of the increase of their technical level and quality.

L. I. Brezhnev called the weighed, considered development of foreign economic relations a considerable reserve of the increase of the efficiency of our economy [2]. In light of these instructions the urgency of the elaboration of the methodology of the scientific analysis and the adequate evaluation of different versions of the expansion and intensification of international economic cooperation is increasing.

The effectiveness of foreign trade can be measured most completely and accurately on the basis of the balance of the national economy. In the future the consolidated balance of the national economy of the CEMA member countries may become an

1. Calculated according to the data in foreign exchange prices. When calculated in domestic prices the proportion of consumer goods and the raw materials for their production will be even greater.

important tool of the analysis and planning of the economic cooperation of these countries.² The standardization of the national balances of the national economy of the CEMA countries, first of all the proper, uniform reflection in them of the foreign economic relations and their contribution to the assurance of the efficiency of social production, is a necessary prerequisite for the elaboration of such a balance.

Under present conditions the problem of the more complete reflection in the balance of the national economy of financial relations has also become very urgent. It is stipulated by the decree of the CPSU Central Committee and the USSR Council of Ministers of 12 July 1979 that not only material balances, but also financial balances, which are coordinated with them, should be elaborated within the five-year and annual plans of all the units of the national economy.

In the now prevailing arrangement of the balance of the national economy of the USSR the financial relations are characterized by the balance of the national income, as well as by the balance of the monetary income and expenditures of the population, which is inadequate. In order to characterize more completely the distribution and redistribution of income and to promote to a greater extent the assurance of balance and proportionality in the development of the economy, the balance of the national economy should be supplemented by a system of financial balances.

Such a system of financial balances, which has been elaborated at the Institute of Economics of the USSR Academy of Sciences, includes two aspects of the balance. The first consists in the fact that the amount of financial resources being accumulated is balanced with their expenditure. Such a balance differs substantially from the physical and material balance. Indeed, it is impossible to distribute more than has been produced (with allowance made for the change of stocks and the results of foreign trade). But the amount of financial resources being distributed can be more or less than the amount of income, which means respectively the emission or withdrawal of money from circulation. The second aspect is the assurance of the balance of financial resources, on the one hand, and material wealth, on the other.

The first aspect of the balance is realized most consistently in the state budget, the second aspect is realized most consistently in the balance of the monetary income and expenditures of the population. In the end both of the indicated aspects are interconnected. The revenues of the state budget depend not only on the adopted system of the distribution and redistribution of assets, but primarily on the results of production, while the income of the population is determined not only by the level of labor productivity, the wage system and production efficiency, but also by the nature of the distribution of financial resources (pensions, grants, stipends and so on).

The system of financial balances, which contains both the balances of the income and expenditures of the population, production enterprises and nonproduction institutions and the balances of the financial resources of the state, should envisage both of the named aspects of the balance and thereby the coordination of the physical and material and the financial and value aspects of social reproduction.

2. A number of authors indicate this (see [12, Chapter IX]).

The proposed system of financial balances within the balance of the national economy, in addition to the balance of the income and expenditures of the population, also includes the following balances: the financial resources of state cost accounting enterprises, associations, organizations and kolkhozes; the financial resources of budget-carried institutions; centralized financial resources; the financing of capital investments; the financing of working capital and stocks; the financing of the nonproduction sphere; the consolidated balance of the financial resources of the national economy.

Along with the named balances the financial balances of the largest comprehensive goal programs, which are being elaborated in conformity with the decisions of the 26th CPSU Congress, should also be included in the balance of the national economy.

The proposed system of financial balances will be able to serve as the basis for the consolidated calculations of the revenues and expenditures of the USSR state budget for a 5-year period, which are envisaged by the decree of the CPSU Central Committee and the USSR Council of Ministers on the improvement of the economic mechanism (July 1979) [5, p 28].

The role of the balance of the national economy for the analysis of economic development and the evaluation of its results is also of no small importance, since it contains the most complete and interconnected information on the national income, consumption and accumulation, material, manpower and financial resources and their dynamics and use. The indicators of the labor intensity, materials intensity and capital-output ratio of the national income and the gross national product, which make it possible to distinguish the intensive and extensive factors of economic growth and to characterize the process of the intensification of social production, can be calculated on this basis. The synthetic indicators of the economic efficiency of social production are determined according to the data of the balance of the national economy.

The detailed characterization in the balance of the national economy of the financial and value relations would make it possible to measure more accurately the economic efficiency of social production. The methods of its determination, which are presently being used and recommended, consist, as is known, in the comparison of the total amount of national income or the integral consumption fund with the expenditures or resources. In the case of such an approach the degree of the balance and proportionality of the development of the economy is not taken fully into account in the indicators of efficiency.

The balance and proportionality of the material goods and services being consumed in current (annual) production directly influence these indicators. In many ways their structure is governed by the production technology. However, the consumption of so-called intermediate products in production within certain limits is variable: different types of fuel (petroleum, gas, coal), construction materials (metal, reinforced concrete, wood, plastics) within the corresponding groups are interchangeable. There is also some interchangeability between the products of different groups. For example, less fuel is required for heating insulated buildings (the interchangeability of fuel and construction materials). The transportation of the same cargo can often be carried out by different types of transport--rail, water, motor. But the use of one technology or another, the consumption of some resources and services or others and the disproportions in the production of

different types of raw materials and materials are directly reflected in the indicators of the results of production and the expenditures. The deviation of the structure of consumption in production from the optimum structure decreases the indicator of efficiency and, on the contrary, its approximation of the optimum structure increases it.

The situation with respect to the production of the final product is different. Although the products of fund-forming sectors for their subsequent use in the investment sphere should also be produced in specific proportions, their violation does not influence the amount of national income of the given year and, thus, the indicators of the efficiency of social production. The same thing also applies to the increase of physical working capital and stocks. An imbalance and disproportions in this area will show only later and will find their reflection in the indicators of the results and expenditures of production of future years and, consequently, the dynamics of efficiency. As for the balance and proportionality of nonproduction consumption, these factors in general do not influence in any way the indicators of efficiency now being used and its dynamics.

Meanwhile, if we examine efficiency on the basis of the requirements of the basic economic law of socialism and consider the increase of the well-being of the people to be its main criterion, the balance and proportionality of the final product should be reflected in the indicators of efficiency to no less an extent than the intermediate product.

The balance and proportionality in the production of the final product are determined by the degree of conformity of its structure to the effective demand. Without having the opportunity to purchase for their income products according to the desired structure, the population, enterprises, kolkhozes and budget-carried organizations are forced to consume a portion of the products according to the possible structure. However, the more coordinated the structure of supply and the effective demand are, the more efficient the national economy is, since in this case social needs are more completely satisfied.

The influence of the balance and proportionality in the production of the final product on the efficiency of social production E can be taken into account by means of the coefficients a_1 , a_2 , a_3 and a_4 , which characterize the degree of conformity between the structure of the effective demand of the population, enterprises, kolkhozes and budget-carried organizations and its meeting:

$$E = \frac{a_1 S_1 + a_2 S_2 + a_3 S_3 + a_4 S_4}{R} ,$$

where S_1 , S_2 , S_3 and S_4 are the national income (with the addition of services), which was used respectively by the population, enterprises, kolkhozes and budget-carried organizations; R is the production expenditures or resources in the corresponding measurement.

The conversion of the balance of the national economy into prices, which are determined in conformity with different concepts of pricing, is of substantial importance for the improvement of the economic mechanism and especially pricing, for the compilation of budget drafts and for economic measurement of different kinds. The problem of converting the individual sections and indicators of the balance of the national economy into prices, which reflect the social costs of production,

at one time held a prominent place in the research and publications of V. A. Sobol', S. G. Strumilin, A. I. Anchishkin, M. Z. Bor, Ya. A. Kronrod, V. P. Plyshevskiy and other Soviet economists.

As a result of the reform of the prices for industrial products, which was carried out in 1967, the changeover in 1982 to new wholesale prices and rates and the consistent improvement of purchase prices in agriculture the prevailing prices began to reflect better the social costs of production. But even now serious deviations of the prices from the cost are occurring.

The levels of the prices for consumer goods, on the one hand, and services for a fee, on the other, differ substantially. The more complete and accurate monetary valuation of free services, which under the conditions of mature socialist society are acquiring a greater and greater role in meeting the needs of the workers, is needed. Therefore the problem of converting the balance of the national economy into prices, which uniformly reflect the social costs of production, has by no means lost its importance. Moreover, in connection with the tasks of the detailed reflection in it of the nonproduction sphere and foreign economic relations and the measurement of the economic efficiency of social production and foreign trade the need for such calculations, in our opinion, has increased.

3. A Model for Compiling the Balance of the National Economy

The 26th CPSU Congress posed the task to adopt and to use efficiently an automated system of planning calculations, which presumes the extensive use of mathematical economics methods [4, p 198]. In the works on the balance of the national economy these methods are presently being used only for the calculation and analysis of the intersectorial balance, which does not settle the problem.

As Chairman of USSR Gosplan N. K. Baybakov points out, "...in recent years the theoretical and methodological work on the balance of the national economy has decreased. Apparently, the exaggeration of the role of the intersectorial balance and the opposition of the latter by some scientists to the balance of the national economy were one of the causes of this. Without belittling in the least the importance of the intersectorial balance, it should be stressed that it is a component of the balance of the national economy, which presumes the use of an entire set of balances--physical, value, manpower. Therefore its further development and improvement, including, of course, its mathematization, are a matter of paramount importance" [13, p 9].

In our opinion, the improvement of the methods of reflecting investment processes and financial distributive relations in the balance of the national economy merits paramount attention. The construction lag serves as the most important characterization of investment processes. Meanwhile in the model, which is designed for compiling the balance of the national economy, its consideration in obvious form is not envisaged. This circumstance especially shows up when using such models for calculations of the balances of the national economy for the future. In contrast to the arrangements of reproduction of Marx, the model of the intersectorial balance does not envisage the conditions of the realization of the gross national product and the national income--the balance of income and its material backing [6, pp 67, 88-95; 14].

Material-financial models, which include in obvious form the conditions of realization and the construction lag, are needed for compiling the balance of the national economy. An "income-goods" model of this type has been developed by the Institute of Economics of the USSR Academy of Sciences [15]. Both a physical and material and a financial and value and a currency balance are envisaged in it. Along with the equations of the intersectorial balance, which characterize the functional dependences between the expenditures of material resources and the production of output, the "income-goods" model includes two more groups of equations. The first of them characterizes the dependences between income and savings, which govern the effective demand, and the possibilities of meeting it; the second characterizes the dependences between exports and imports in domestic and exchange prices. The system of balance equations of the "income-goods" model for each year of the planning period has the form:

$$\begin{aligned} X_i &= \sum_j a_{ij} X_j + Y_i + W_i, \\ D_Y &= f_Y(Y_j); \quad D_Y = \sum_i M_i \pm \theta_Y, \\ V_i &= f_i(D_Y, X_j); \\ \sum_i V_i l_i^{n(-1)} &= \sum_j W_j l_j^{\circ} + C_{\text{ЭИ}}, \end{aligned}$$

where X_i is the output of sector i ; a_{ij} is the expenditures of the output of sector i per unit of output of sector j ; Y_i is the final product of sector i ; D_Y is the monetary income of type Y (for example, the amount of the effective demand of the population, enterprises, organizations, kolkhozes); M_i^Y is the amount of goods or services of sector i in monetary terms for meeting the effective demand with respect to income of type Y ; θ_Y is a portion of the income of type Y , which is allocated for savings (plus) or is withdrawn (minus) from savings of past years (the deferred demand); V_i is the imports in domestic prices; W_i is the exports in domestic prices; l_i^H and l_j° are coefficients of the currency effectiveness of imports and exports; $C_{\text{ЭИ}}$ is the export-import balance.

The dynamic "income-goods" model in addition to the cited equations contains an investment block, which characterizes the reproduction of fixed capital, and a block of prices.

The reserve capacities, which ensure the normal progress of the annual reproduction cycle, are also taken into account in the equations of the investment block. They make it possible to cope with arising competitive strains ("peak" loads) and to reestablish the stocks of products, which may decrease as a result of circumstances of various types. The amount of the reserve capacities is defined as the difference between the production capacities in the case of their maximum and preferable utilization. The reserve capacities are calculated in the model for sectors as a whole, and not as the sum of the reserve capacities for each enterprise of the sector.

In the investment block the need for fixed production capital is determined for each year subject to the capital-output ratio and the production volumes. The available productive capital is the sum of the fixed production capital at the beginning of

the year less the portion of it which is being liquidated. The additional need for fixed capital is defined as the difference between the total need and the availability of capital.

The placement of fixed capital into operation in each year depends, on the one hand, on the volume of construction which was begun in preceding years. On the other hand, the volume of newly begun construction in a given year determines the volume of the placement of fixed capital into operation in subsequent years subject to the periods of construction. Consequently, the amount of capital investments for each year and accordingly the expenditures of the output of the sectors for capital investments are determined, first, by the need for the investment of assets in the completion of the construction of started projects and, second, by the volume of newly begun construction. The volume of newly begun construction in each year is determined by the additional need for fixed capital during the year which is removed from the given year by the maximum period of construction.

Thus, the balance of production and capital investments for each year (the annual reproduction cycle) and the balance of the long-range reproduction cycle are ensured in the investment block, that is, the total amount of capital investments by years of the period ensures the planned volume of the production of output.

The block of prices in the "income-goods" model has a twofold purpose. The equations of this block make it possible, first, to reflect the proposed dynamics of the prices in the calculations of the long-range balances of the national economy and, second, to reevaluate the balance of the national economy in prices which express uniformly the social costs of production.

The system of balanced indicators, which characterize mainly the process of social reproduction, is calculated on the basis of the "income-goods" model. The volume and structure of production conform to the needs for products and services for consumption in production and nonproduction consumption, accumulation and exports. The amount and structure of the capital investments ensure the capacities which are sufficient for the production of the planned output and services. The amount of manpower resources in the case of the planned labor productivity ensures the outlined production of output and services. The volume and structure of the planned imports correspond to the need for imported products, which are intended for consumption in production, nonproduction consumption and accumulation. The need for currency for the import of products corresponds to the currency resources which were obtained from the export of goods and services, as well as on credit.

The monetary receipts of enterprises for sold products are sufficient for making up for the consumed means of production, the payment of wages, the meeting of financial obligations to the state, as well as for covering other monetary expenditures which are specified by the financial plans of the sectors. The volume and structure of the goods and services intended for sale to the population correspond to the monetary income of the population, which consists of wages, pensions, stipends and other payments. The amount of the centralized fund of monetary assets corresponds to the sum of the centralized expenditures on capital investments, the maintenance of the nonproduction sphere, the payments to the population and other social needs. The amount and structure of the goods and services, which are purchased by budget-carried organizations, correspond to the monetary assets which are placed at the disposal of these organizations.

On the basis of the calculated indicators long-range balances of the national economy can be compiled both according to the prevailing arrangement and according to the arrangement which has been improved and expanded with allowance made for the additions examined above.

The dynamic "income-goods" model, like the majority of other models for not only applied, but also theoretical purposes, which are examined in our economic literature, is a determinate model. The premise that the processes and phenomena being modeled lend themselves to quite complete consideration and forecasting, is the basis for determinate models. When constructing such models it is understood that it is possible to characterize unequivocally the state of the economy at every given moment of time by the corresponding information.

Meanwhile along with determinate processes random processes, about which in principle there is no unequivocal information, are also being observed in our economy. Of course, the sphere of processes of this type in the socialist economy, which is developed according to plan, is substantially narrower than in the spontaneous capitalist economy. But it would be incorrect to deny them completely. The fluctuations of weather conditions, the discovery of new mineral deposits, the dynamics of world prices and many achievements of scientific and technical progress are of an indeterminate nature.

The factor of uncertainty adversely affects the national economy. In order to be convinced of this let us examine the following example. Let us compare two hypothetical versions of the development of the economy over a segment of time of 4 years. Assume that in the first version all 4 years were average with respect to the crop yield, while in the second version during the first and third years the crop was a specific amount less than the average, while during the second and fourth years it was the same amount larger. Thus, in both the first and second versions the total crop for the 4 years is identical, but for the national economy the versions being compared are by no means equivalent. Crop failures during adverse years do harm not only to agriculture, but also to light and the food industries. And it is impossible to offset such harm by a large crop during favorable years without special measures and additional expenditures. Additional capacities in light and the food industry, warehouses, means of transportation and so on are required for this.

The consideration of uncertainty causes considerable difficulties in the compiling of the planning and forecasting balances of the national economy and in the elaboration of the models necessary for this. But this does not make the problem unsolvable. Marxism does not deny the category of chance, but regards it as a manifestation of objective laws, which affords quite extensive opportunities for the solution of the problem. The need is arising to elaborate such models for the compiling of the balance of the national economy, in which the random nature of some processes and phenomena of economic development would be taken into account. The models of this type belong to the class of stochastic models.

A stochastic modification of the dynamic "income-goods" model, which was set forth above, could serve for the compiling of the balance of the national economy with allowance made for uncertainty [16]. On the one hand, the most essential manifestations of uncertainty, which at the same time lend themselves to a probabilistic appraisal, and, on the other, the measures aimed at the moderation of the

influence of uncertainty: the creation of stocks of finished products, raw materials and materials, reserves of production and warehouse capacities and currency reserves and the additional development of the infrastructure, are reflected in the modified model. Measures of this type require, of course, considerable expenditures. In the stochastic modification of the "income-goods" model these expenditures are compared with the results, which find expression in the decrease of the direct and indirect losses from uncertainty. The optimization problem, the statement of which consists in the following, is solved here.

A portion of the national income is diverted for the formation and replenishment of reserves, as well as for other measures on the reduction of the losses from uncertainty, which decreases that portion of it, which is used for consumption and for accumulation as such. On the other hand, the decrease of the losses from uncertainty increases it, since the amount of national income increases. If the reserves are large, inordinate assets are diverted from the national income. If, on the contrary, the reserves are small, the losses as a result of uncertainty decrease the national income. It is necessary, consequently, to find the optimum amounts of that portion of the national income, which is allocated for the formation of reserves and for other measures on the decrease of the losses from uncertainty. Here the maximum national income, which is used for consumption and for accumulation as such, serves as the criterion of optimality.

The consideration of uncertainty in the balance of the national economy is of great importance in the planning of not only reserves, but also the infrastructure. The amount of reserves to a decisive extent predetermines the capacity of warehousing services. While being responsible for the need for the unforeseen shifting of material resources, the factor of uncertainty makes additional demands on the development of transportation.

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